

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.

This chapter presents data 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 Association for the Evaluation of Educational Achievement (IEA). 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 (See OECD entry in Guide to Sources).

This chapter also presents data from the 1994–95 Trends in International Mathematics and Science Study (TIMSS) and 1999 Trends in International Mathematics and Science Study–Repeat (TIMSS–R), carried out under the aegis of the International Association for the Evaluation of Educational Achievement (IEA), and supported by NCES and the National Science Foundation. These surveys were formerly known as the Third International Mathematics and Science Study. Data in 1994–95 were collected for the two grades that contained the most 9-year-olds (Population 1) and the two grades that contained the most 13-year-olds (Population 2). The mathematics and science performance of 4th-grade students in 26 countries, and 8th-grade students in 41 countries, was studied through assessments 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. TIMSS–R is a successor to the 1994–95 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.

This chapter includes additional information on performance scores of 15-year-olds in the areas of reading, mathematics, and science literacy from the Program for International Student Assessment (PISA). PISA also measures general or cross-curricular competencies such as learning strategies. While this study focuses on OECD countries, data from some non-OECD countries are also provided.

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 (table 396). Among the OECD countries, Turkey had the largest percentage of young people ages 5 to 14 (21 percent in 1999). The closest followers were Iceland (16), Ireland (15), New Zealand (15), and the United States (15). Countries with relatively small numbers of persons in this age group included Italy, Japan, and Spain at 10 percent.

Enrollments

In 1997, about 1.2 billion students were enrolled in schools around the world (table 394). Of these students, 668 million were in elementary-level programs, 398 million were in secondary programs, and 88 million were in higher education programs. Between 1990 and 1997, enrollment changes varied from region to region. Changes in elementary enrollment ranged from increases of 24 percent in Africa, 17 percent in Oceania, 13 percent in Central and South America, 12 percent in Asia, and 8 percent in Northern America (defined in UNESCO tabulations as in-

cluding the United States, Canada, and Greenland) to a 5 percent decrease in Europe. Over the same period, 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 rose by 15 percent.

At the postsecondary level, developing areas of the world also had substantial increases in enrollment between 1990 and 1997 (tables 394 and figure 27). 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.

Postsecondary enrollment varied among countries partially due to differing definitions of postsecondary education and at what age it begins (table 397). 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 year old 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.

In 2001–02, there were about 583,000 foreign students studying at U.S. colleges and universities (table 417). Approximately 56 percent of these students were from Asian countries. Between 1990 and 2001, the proportion of students at U.S. colleges who were nonresident aliens rose from 2.8 to 3.5 percent (table 209).

Achievement

In 1999, U.S. 8th-graders exceeded the international average of 38 nations in mathematics and science (tables 403 and 409). In mathematics, U.S. 8th-grade students outperformed their peers in 17 nations (ranking not shown), performed no different than their peers in 6 nations, and performed lower than their peers in 14 nations in 1999 (table 403). In science, U.S. 8th-grade students outperformed their peers in 18 nations (ranking not shown), performed no different than their peers in 5 nations, and performed lower than their peers in 14 nations in 1999 (table 409).

On the combined reading literacy scale for PISA 2000, there was no difference detected in the average performance of U.S. 15-year-olds compared to

averages of 15-year-olds in 19 of the 27 participating OECD countries (table 400). The PISA mathematics and science literacy assessments also showed that the U.S. average does not differ from the OECD average. Eight countries outperformed the United States in mathematics literacy (ranking not shown), and seven had higher average scores for science literacy. The United States had higher average scores than seven countries for mathematics literacy and seven for science literacy.

Degrees

Ratios of bachelor's degrees conferred per hundred persons at the typical year of graduation in 2000 ranged from 9 in Denmark and 10 in Switzerland to 38 in the United Kingdom and 36 in Finland and Australia (table 412 and figure 29). 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.

The percentage of undergraduate degrees awarded in science fields (including natural sciences, mathematics and computer science, and engineering) reported by OECD countries ranged from 11 to 37 percent for 2000 (table 413). Korea, Finland, Germany and France were over 30 percent, while Denmark, Norway, Hungary, the Netherlands, Iceland, Poland, the United States, Portugal, New Zealand, Japan, and Canada were 20 percent or less. The proportion of graduate degrees awarded in science fields also ranged widely across countries in 2000 (table 414). Among the countries with the highest proportions were Japan (52 percent), Korea (48 percent), Switzerland (43 percent), and Sweden (41 percent). Among the countries with the lowest proportions were Poland (3 percent), Hungary (10 percent), Italy (12 percent), the United States (13 percent), and Australia (15 percent).

Finances

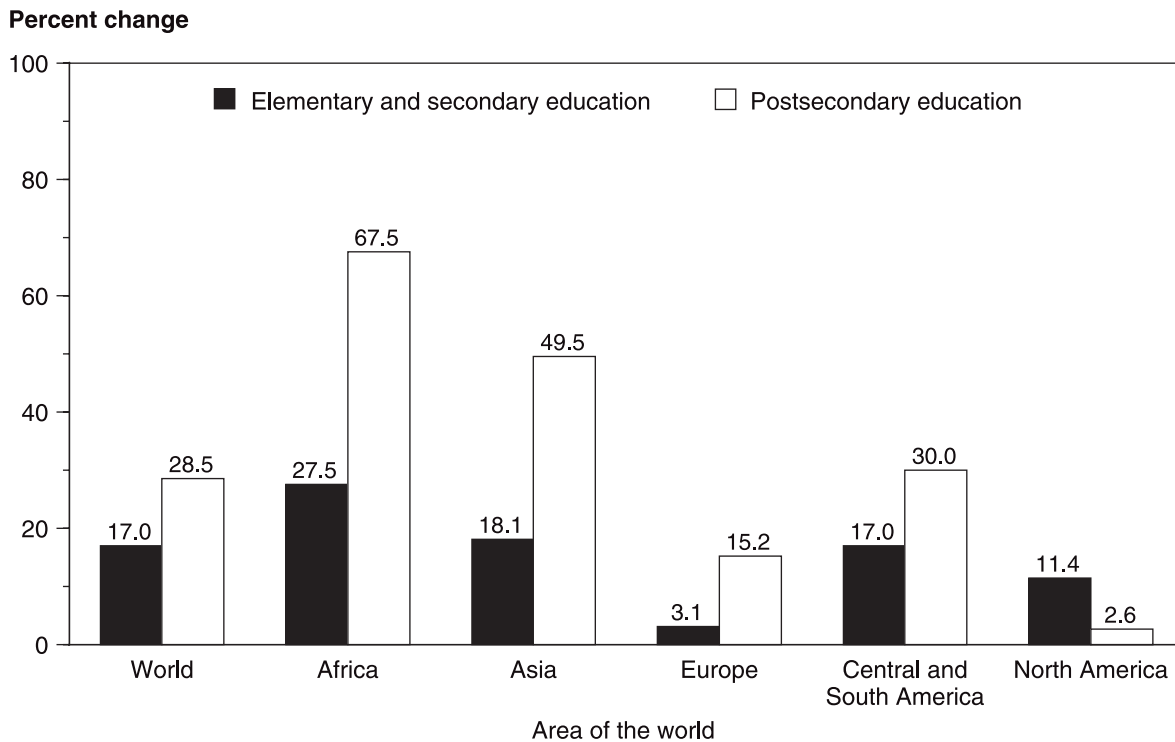
In general, higher income countries spend more public and private funds per student than lower income countries. At the primary level of education, Denmark, the United States, Switzerland, Austria, Norway, and Sweden ranked at the upper end of public per pupil expenditures in 2000 (table 415). For primary education per student, Denmark spent about \$7,074 per student, the United States spent \$6,995, Switzerland spent \$6,631, Austria spent \$6,560, Norway spent \$6,550, and Sweden was \$6,336. At the secondary level, Switzerland, the United States, Austria, and Norway had expenditures over \$8,000 per student. The United States, Switzerland, Canada, and Sweden spent relatively large amounts per student in higher education. The United States spent \$20,358, Switzerland spent \$18,450, Sweden spent

\$15,097, and Canada spent \$14,983. 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 direct expenditures on education as a percent of gross domestic product (GDP) in OECD countries shows that national investment in education in 2000 ranged from 3.5 percent in Turkey,

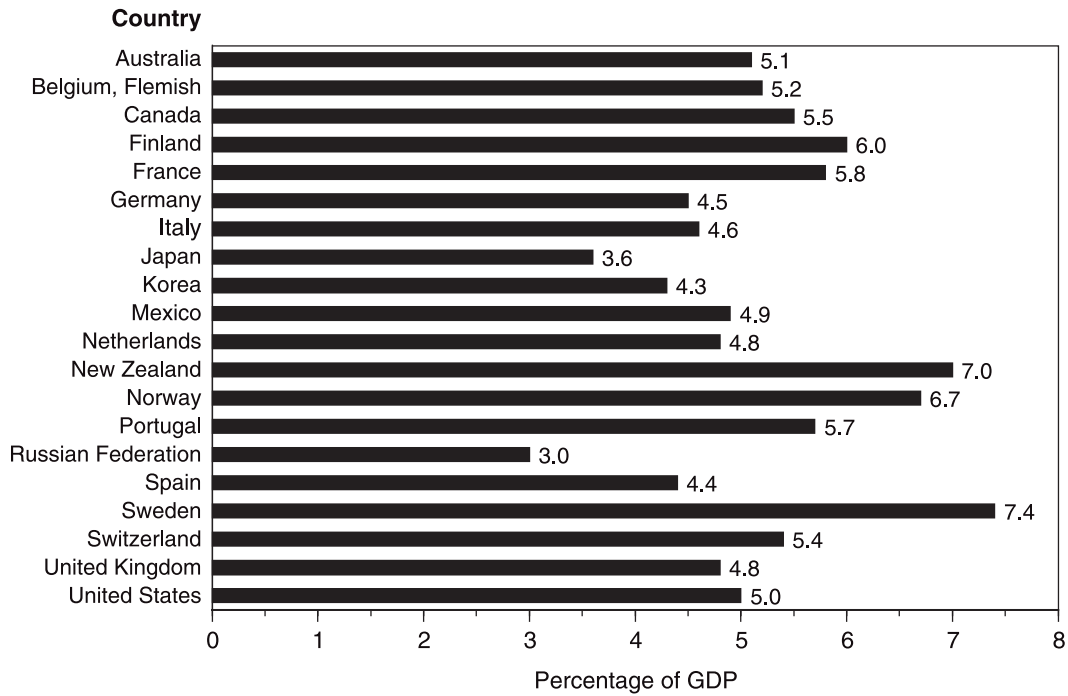
3.6 percent in Japan, and 3.8 percent in Greece to 8.4 percent in Denmark (table 416 and figure 28). Among reporting countries, the average public investment in education in 2000 was 5.2 percent of GDP. In the United States, public expenditures on education as a percent of GDP was 5.0 percent, and in the Russian Federation, a non-OECD country, it was 3.0 percent.

Figure 27. Percent change in enrollment, by selected areas of the world and level of education: 1990 to 1997



SOURCE: United Nations Educational, Scientific, and Cultural Organization, Paris, *Statistical Yearbook*, 1999.

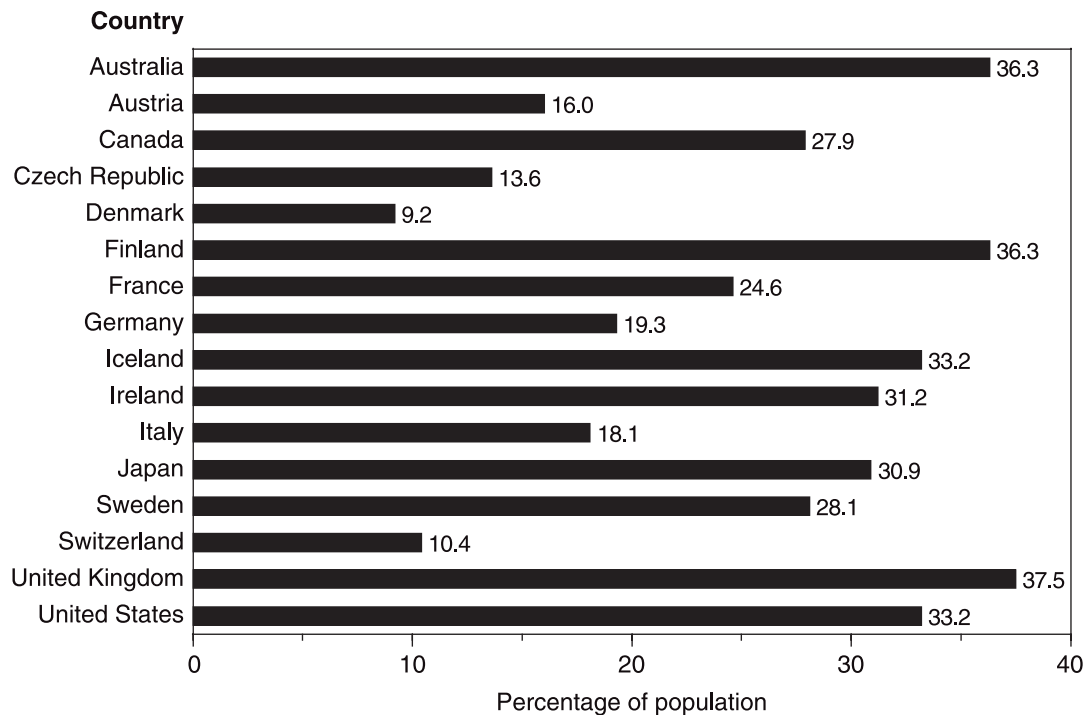
Figure 28. Public direct expenditures for education as a percentage of the gross domestic product: Selected countries, 2000



NOTE: Includes all government expenditures for education institutions, plus public subsidies to households for living costs which are not spent at educational institutions.

SOURCE: Organization for Economic Cooperation and Development, *Education at a Glance, 2003*.

Figure 29. Bachelor's degree recipients as a percentage of the population of the theoretical age of graduation: Selected countries, 2000



NOTE: Includes graduates of any age.

SOURCE: Organization for Economic Cooperation and Development, *Education at a Glance, 2002*.

Table 394. Estimated population, school enrollment, and teachers in major areas of the world: Selected years, 1980 to 1997

Item	World total ¹	Major areas of the world					
		Africa ²	Asia ³	Europe ⁴	Central and South America ⁵	Northern America ⁵	Oceania ⁶
1	2	3	4	5	6	7	8
1980							
Population, all ages, ⁷ 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 ⁸	541,556	62,134	336,174	52,471	65,414	22,611	2,752
Second level ⁹	264,379	14,360	144,755	62,734	16,969	23,913	1,647
Third level ¹⁰	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 ⁸	19,044	1,661	10,874	2,541	2,260	1,580	129
Second level ⁹	15,398	584	7,554	4,387	1,083	1,679	112
Third level ¹⁰	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	¹¹ 5.1	3.8	5.2	5.6
1990							
Population, all ages, ⁷ 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 ⁸	596,853	80,640	364,213	48,968	75,505	24,810	2,717
Second level ⁹	315,008	24,378	181,652	63,366	22,194	21,569	1,849
Third level ¹⁰	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 ⁸	22,626	2,390	12,692	2,812	3,006	1,582	143
Second level ⁹	19,380	1,241	9,947	5,076	1,520	1,449	146
Third level ¹⁰	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	¹¹ 5.1	4.1	5.4	5.6
1995							
Population, all ages, ⁷ 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 ⁸	650,876	95,667	395,725	47,367	82,490	26,500	3,127
Second level ⁹	373,200	30,698	220,333	69,453	25,841	23,984	2,891
Third level ¹⁰	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 ⁸	24,340	2,802	13,515	2,848	3,366	1,649	161
Second level ⁹	21,759	1,468	11,283	5,561	1,703	1,528	217
Third level ¹⁰	5,981	205	2,180	1,696	747	1,092	61
1996							
Population, all ages, ⁷ 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 ⁸	659,106	98,356	400,405	46,866	83,596	26,736	3,147
Second level ⁹	386,386	32,127	229,981	69,103	27,815	24,355	3,005
Third level ¹⁰	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 ⁸	24,622	2,881	13,630	2,842	3,446	1,661	162
Second level ⁹	22,375	1,538	11,719	5,556	1,785	1,552	224
Third level ¹⁰	6,084	223	2,247	1,709	752	1,093	61
1997							
Enrollment, all levels, in thousands	1,154,721	138,714	679,366	137,645	123,778	67,689	7,528
First (primary) level ⁸	668,450	100,226	406,661	46,304	85,177	26,906	3,176
Second level ⁹	398,116	33,708	237,861	69,547	29,153	24,746	3,101
Third level ¹⁰	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 ⁸	24,818	2,927	13,763	2,814	3,474	1,674	165
Second level ⁹	23,017	1,585	12,185	5,568	1,874	1,577	228
Third level ¹⁰	6,284	242	2,339	1,759	789	1,092	62

—Not available.

¹ Enrollment and teacher data exclude the Democratic People's Republic of Korea.² Excludes Rodrigues and other small islands.³ 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.⁴ Includes all countries of the former U.S.S.R. except Kazakhstan, Uzbekistan, Kyrgyzstan, Tajikistan, and Turkmenistan.⁵ 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.⁶ 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.⁷ Estimate of midyear population.⁸ First level enrollment generally consists of elementary school, grades 1–6.⁹ 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 7–12.¹⁰ 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.¹¹ 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, *Statistical Yearbook, 1999*. (This table was prepared July 2000.)

Table 395. Selected statistics for countries with populations over 10 million, by continent: 1980, 1990, and 1997

Country ¹	Population in millions			Persons per square kilometer in 1997	First level ²					
	1980	1990	1997		Enrollment in thousands			Enrollment ratio ⁵		
					1980	1990	1997	1980	1990	1997
1	2	3	4	5	6	7	8	9	10	11
World total⁶	4,447.1	5,282.0	5,817.2	45	541,556	596,853	668,450	96	99	102
Africa										
Algeria ⁷	18.7	24.9	29.3	12	3,119	4,189	8,675	94	100	⁸ 107
Angola	7.0	9.2	11.7	9	1,301	¹⁰ 990	—	175	92	—
Burkina Faso	6.9	9.1	10.5	38	202	504	⁹ 701	17	33	⁹ 40
Cameroon	8.7	11.5	13.9	30	1,379	1,964	⁸ 1,921	98	101	⁸ 85
Cote d'Ivoire	8.2	11.7	14.2	45	1,025	1,415	⁸ 1,736	75	67	⁸ 71
Democratic Rep of the Congo	27.0	37.4	46.7	21	4,196	4,562	¹⁰ 5,418	92	70	¹⁰ 72
Egypt ⁷	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	⁸ 4,008	37	33	⁸ 43
Ghana ⁷	10.8	15.0	18.0	79	¹² 1,378	1,945	¹⁰ 2,155	79	75	¹⁰ 79
Kenya ⁷	16.6	23.5	28.6	50	3,927	5,392	^{9,15} 5,545	115	95	⁹ 85
Madagascar	9.1	12.6	14.2	24	1,724	1,571	⁹ 1,638	130	103	⁹ 92
Malawi	6.2	9.3	10.3	109	810	1,401	⁹ 2,887	60	68	⁹ 134
Mali	6.9	7.9	10.3	8	291	395	863	26	26	49
Morocco ⁷	19.4	24.0	27.3	61	2,172	2,484	⁸ 3,161	83	67	⁸ 86
Mozambique ⁷	12.1	14.2	16.6	21	¹⁹ 1,387	1,260	⁹ 1,415	—	67	⁹ 60
Nigeria ⁷	72.0	96.2	117.7	129	12,117	13,607	¹⁰ 16,191	109	91	¹⁰ 98
South Africa	29.2	37.1	40.7	33	^{15,4} 3,353	6,952	^{9,8} 8,159	90	122	⁹ 133
Sudan ⁷	18.7	24.1	27.7	12	1,464	2,043	⁸ 3,000	50	53	⁸ 51
Uganda	13.1	16.6	20.3	102	²³ 1,292	^{15,23} 2,470	^{9,2} 9,912	50	74	⁹ 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
Asia										
Afghanistan ⁷	16.1	14.8	24.1	37	1,116	623	⁹ 1,312	34	27	⁹ 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	⁹ 468	107	102	⁹ 94
India	688.9	850.8	962.4	324	73,873	99,118	⁸ 110,390	83	97	⁸ 100
Indonesia	151.0	182.8	200.4	111	25,537	29,754	⁸ 29,236	107	115	⁸ 113
Iran, Islamic Republic of	39.3	59.2	60.9	38	4,799	9,370	^{8,9} 9,238	²⁶ 98	112	⁸ 98
Iraq	13.0	18.1	21.9	50	2,616	3,328	^{9,2} 9,904	113	111	⁹ 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	⁸ 1,342	84	87	⁸ 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	^{15,2} 841	93	94	101
Myanmar	33.8	41.4	43.9	67	4,148	5,385	^{9,5} 5,414	91	106	⁹ 121
Nepal ⁷	14.5	18.8	22.3	156	1,068	2,789	⁸ 3,448	86	108	⁸ 113
Pakistan	85.3	119.1	128.5	167	²⁸ 5,474	²⁸ 11,451	—	40	61	—
Philippines	48.3	60.8	73.5	247	¹² 8,034	10,427	12,159	112	111	117
Saudi Arabia	9.6	16.0	20.1	9	927	1,877	^{8,2} 2,256	61	73	⁸ 76
Sri Lanka ⁷	14.8	17.1	18.6	287	2,081	2,112	⁸ 1,844	103	106	⁸ 109
Syrian Arab Republic	8.7	12.4	14.9	81	1,556	2,452	^{8,2} 6,690	100	108	⁸ 101
Thailand	46.7	55.6	60.6	119	7,393	6,957	5,928	99	99	⁸ 87
Turkey	44.4	56.1	62.5	81	5,656	6,862	^{8,6} 6,389	96	99	⁸ 107
Uzbekistan	16.0	20.5	23.7	57	1,391	1,778	^{10,1} 9,906	81	81	¹⁰ 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	—	²¹ 2,679	⁸ 2,700	—	²¹ 79	⁸ 70
Europe										
Belarus ⁷	9.7	10.3	10.3	49	750	615	⁸ 625	104	95	⁸ 98
Belgium	9.9	10.0	10.2	310	842	719	⁹ 743	104	101	⁹ 103
Czech Republic	10.3	10.3	10.3	133	647	546	⁹ 542	96	96	⁹ 104
France	53.9	56.7	58.6	107	4,610	4,149	^{9,4} 4,005	111	108	⁹ 105
Germany ³¹	78.3	79.4	82.1	235	3,636	3,431	⁸ 3,859	—	101	⁸ 104
Greece	9.6	10.2	10.5	81	901	813	⁸ 652	103	98	⁸ 93
Hungary ⁷	10.7	10.4	10.2	110	1,162	1,131	⁹ 507	96	95	⁹ 103
Italy ⁷	56.4	57.0	57.5	196	4,423	3,056	^{8,2} 8,110	100	103	⁸ 101
Netherlands ⁷	14.1	15.0	15.6	460	1,333	1,082	⁸ 1,231	100	102	⁸ 108
Poland ⁷	35.6	38.1	38.7	127	4,167	5,189	^{9,5} 5,021	100	98	⁹ 96
Romania ⁷	22.2	23.2	22.6	98	3,308	1,253	⁸ 1,405	104	91	⁸ 103
Russian Federation	138.7	148.3	147.3	9	6,009	7,596	^{10,7} 8,491	102	109	¹⁰ 107
Spain ⁷	37.5	39.3	39.3	79	3,610	2,820	^{15,2} 6,110	109	109	¹⁵ 109
Ukraine ⁷	50.0	51.9	50.7	88	3,592	3,991	²¹ 2,659	102	89	²¹ 87
United Kingdom ⁷	56.3	57.6	59.0	244	4,911	4,533	^{8,5} 3,328	103	104	⁸ 116
Yugoslavia, Federal Republic ⁷	9.5	10.2	10.6	104	—	³² 467	⁸ 438	—	72	⁸ 69
North America										
Canada	24.6	27.8	30.0	3	2,185	2,376	^{9,2} 4,448	99	103	⁹ 102
Cuba	9.7	10.6	11.1	101	1,469	888	⁸ 1,095	106	98	⁸ 106
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	⁸ 14,651	120	114	⁸ 114
United States	230.4	254.1	267.7	29	20,420	22,429	⁹ 24,046	99	102	⁹ 102
South America										
Argentina	28.1	32.5	35.7	13	3,917	4,965	5,153	106	106	⁸ 113
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	^{8,2} 2,242	109	100	⁸ 101
Colombia	26.5	32.6	40.0	39	4,168	4,247	^{8,15} 4,917	112	102	⁸ 113
Ecuador	8.0	10.3	11.9	43	1,534	1,846	^{8,32} 1,888	117	116	⁸ 127
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	⁸ 4,262	93	96	⁸ 91
Oceania										
Australia ⁷	14.6	16.9	18.5	2	1,718	1,583	1,856	112	108	101

—Not available.

Rounds to zero.

¹ Selection based on total population for midyear 1997.² First level enrollment generally consists of elementary school, grades 1–6.³ 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 7–12.⁴ 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.⁵ 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.⁶ Enrollment totals and ratios exclude Democratic People's Republic of Korea. Data do not include adult education or special education provided outside regular schools.⁷ Classification or data coverage of levels have been revised. Data by level may not be comparable over time.⁸ Data for 1996–97.⁹ Data for 1995–96.¹⁰ Data for 1994–95.¹¹ Data for 1991–92.¹² Excludes private institutions.¹³ Data refer to universities and exclude Al Azhar.¹⁴ Excludes non-university institutions (such as teacher training colleges and technical colleges) and excludes distance-learning universities.¹⁵ Estimated.

Table 395. Selected statistics for countries with populations over 10 million, by continent: 1980, 1990, and 1997—Continued

Second level ³						Third level ⁴						Age for compulsory attendance
Enrollment in thousands			Enrollment ratio ⁵			Enrollment in thousands			Enrollment ratio ⁵			
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
264,379	315,008	398,116	47	52	60	51,037	68,613	88,156	12	14	17	—
1,029	2,176	⁸ 2,618	33	61	⁸ 63	79	286	⁹ 347	6	11	912	6–15
191	186	—	21	12	—	2	7	—	#	1	—	7–15
28	99	—	3	7	—	2	5	⁸ 9	—	1	81	—
234	500	—	18	28	1027	12	33	—	2	3	—	6–12
198	361	⁸ 534	19	22	25	20	1130	1052	10	—	—	7–13
862	¹¹ 1,097	¹⁰ 1,514	24	¹¹ 21	¹⁰ 26	28	80	1093	3	1	102	—
2,929	5,507	⁸ 6,727	50	76	716	716	^{12,13} 628	^{12,13} 850	16	16	⁹ 20	6–14
426	866	⁹ 819	9	14	⁸ 12	14	34	⁸ 42	0.4	1	81	7–13
693	—	—	41	36	—	8	1410	—	2	1	—	6–14
428	¹⁶ 618	^{9,15} 632	20	24	⁹ 24	13	1435	—	1	2	—	6–14
—	¹⁶ 323	¹⁶ 302	—	18	⁹ 16	23	36	27	3	3	⁹ 2	6–13
26	61	⁹ 142	5	8	⁹ 17	3	5	⁹ 6	1	1	91	—
—	84	188	8	7	13	17.4	5	14	1	1	—	—
¹⁸ 797	1,194	⁸ 1,442	¹⁸ 26	35	⁸ 39	112	256	⁸ 312	6	11	811	7–16
¹⁶ 90	160	⁹ 185	5	8	⁹ 7	151	205	⁸ 7	1	3	81	7–14
1,865	2,908	10,445	18	25	¹⁰ 33	150	^{14,21} 208	¹⁰ 618	3	^{20,21} 4	—	6–12
—	2,742	¹⁰ 3,571	—	24	⁹ 95	—	22,439	—	—	13	⁹ 19	7–16
384	732	⁸ 406	16	74	⁸ 21	29	1460	—	2	3	—	6–13
^{16,23} 73	^{16,23} 245	^{16,23} 256	5	13	⁹ 12	6	18	^{8,24} 35	1	1	82	—
79	167	235	3	5	6	—	117	18	#	#	81	7–14
75	661	806	8	50	50	8	49	^{8,12} 47	1	5	87	7–15
—	—	—	—	9	—	—	24	—	—	2	—	7–13
137	182	⁹ 513	10	9	⁸ 22	—	—	—	—	4	—	5–10
2,659	3,593	—	18	19	—	240	434	—	3	2	—	—
¹⁶ 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	^{16,25} 431	⁹ 474	64	80	⁹ 73	1412	1135	²¹ 97	10	¹¹ 19	²¹ 22	—
32,748	¹⁶ 54,180	⁸ 68,872	30	44	849	3,545	4,951	⁸ 6,000	5	6	87	6–14
5,722	10,965	⁸ 14,210	29	45	⁸ 56	543	11,773	⁹ 2,303	4	9	811	7–15
2,718	5,085	⁸ 8,777	²⁶ 45	55	⁸ 77	12,26	184	^{12,31} 2	²⁶ 5	10	⁸ 18	6–11
1,033	¹⁶ 1,024	⁹ 1,160	57	47	⁹ 42	107	26	^{8,12} 579	9	²⁶ 12	—	6–12
9,558	11,026	¹⁰ 9,879	93	97	⁹ 103	2,412	¹¹ 2,899	¹⁰ 3,918	31	30	¹⁰ 41	6–15
1,996	2,144	⁸ 1,921	93	98	⁸ 87	525	537	¹⁰ 483	34	40	⁹ 33	6–17
—	—	—	—	90	—	—	—	—	—	—	—	5–15
4,286	4,560	⁸ 4,662	78	90	⁸ 102	648	1,691	⁸ 2,542	15	39	68	6–15
1,084	1,456	¹² 1,795	48	56	64	58	121	⁹ 211	4	7	⁹ 12	—
1,066	1,281	¹⁶ 1,923	22	23	¹⁰ 30	163	11196	^{10,27} 245	5	4	¹⁰ 5	5–10
512	709	⁸ 1,121	22	33	⁸ 42	1234	94	⁸ 106	5	5	85	6–11
2,166	4,345	—	14	23	—	²⁶ 268	—	—	²⁶ 2	3	—	—
2,929	4,034	4,980	64	73	78	1,276	1,709	⁹ 2,022	24	28	⁹ 29	6–12
349	893	⁸ 1,543	29	44	⁸ 61	62	154	⁸ 274	7	12	⁸ 16	—
1,267	2,082	⁹ 2,314	55	74	⁹ 75	2659	11,295	^{9,29} 64	3	5	⁹ 5	5–15
604	914	⁸ 958	46	52	⁸ 42	140	222	¹⁰ 216	17	18	¹⁰ 16	6–12
1,920	2,230	4,097	29	30	⁸ 56	17911	²⁰ 1,156	1,522	15	²⁰ 19	⁸ 21	7–15
2,218	3,308	⁸ 4,761	35	47	⁸ 58	246	750	⁸ 1,434	8	13	⁸ 21	6–14
2,879	3,108	¹⁰ 3,319	105	99	¹⁰ 94	516	603	—	25	30	—	—
¹⁶ 3,847	⁶ 3,236	¹⁶ 6,642	42	32	⁵ 7	115	130	⁸ 509	2	2	87	6–11
—	²¹ 212	⁹ 354	—	²¹ 23	⁸ 34	—	1153	⁸ 66	—	¹¹ 4	84	6–15
760	968	⁸ 1,065	98	93	⁸ 93	340	335	⁸ 329	39	48	844	6–15
836	769	⁹ 1,059	91	103	⁹ 146	196	276	⁹ 358	26	40	⁹ 56	6–18
²⁶ 1,161	1,268	⁹ 1,191	99	99	⁹ 99	³⁰ 118	³⁰ 118	⁸ 207	17	16	824	6–15
5,014	5,522	⁸ 5,980	85	99	⁸ 111	1,077	1,699	⁸ 2,062	25	40	⁸ 51	6–16
8,457	7,398	⁸ 8,382	—	98	⁸ 104	1,624	2,049	⁸ 2,132	27	34	⁸ 47	6–18
740	851	⁸ 818	81	93	⁸ 95	121	283	⁸ 363	17	36	⁸ 47	6–15
357	514	⁹ 1,112	70	79	⁹ 98	118	102	⁹ 195	14	14	⁹ 24	6–16
5,308	5,118	⁸ 4,602	72	83	⁸ 95	1,118	1,452	⁸ 1,893	29	32	⁸ 47	6–14
1,391	1,402	⁸ 1,416	93	120	⁸ 132	360	479	⁸ 489	27	40	⁸ 47	5–18
1,674	1,888	⁹ 2,539	77	81	⁹ 98	589	545	⁹ 720	18	22	⁹ 25	7–15
1,148	2,838	⁸ 2,212	94	92	⁸ 79	193	133	⁸ 412	12	10	⁸ 23	7–14
12,991	13,956	²¹ 13,732	96	93	²¹ 87	5,700	5,100	^{10,4} 458	46	52	¹⁰ 43	6–15
3,977	4,755	⁸ 3,852	87	104	⁸ 120	698	1,222	⁸ 1,684	23	37	⁸ 51	6–16
3,406	3,408	²¹ 4,731	94	93	²¹ 91	1,684	1,652	⁹ 1,541	42	47	⁹ 42	6–15
5,342	4,336	⁸ 6,549	83	85	⁸ 129	827	1,258	⁹ 1,821	19	30	⁸ 52	5–16
—	788	⁸ 815	—	63	⁸ 62	—	¹¹ 133	⁸ 172	—	¹¹ 18	⁸ 22	7–15
2,323	2,292	⁹ 2,505	88	101	⁹ 105	³³ 1,173	1,917	⁹ 1,763	57	95	⁹ 88	6–16
1,146	1,002	⁸ 713	81	89	⁸ 81	152	242	⁸ 112	17	21	⁸ 12	6–16
472	¹¹ 295	385	19	¹¹ 23	26	51	2070	⁹ 80	8	29	⁹ 8	7–14
1,742	6,704	⁸ 7,914	49	53	⁸ 64	930	1,311	⁸ 1,612	14	15	⁸ 16	6–14
21,585	19,270	⁹ 21,474	91	93	⁹ 97	12,097	13,710	⁹ 14,262	56	75	⁹ 81	6–16
1,327	2,160	⁸ 2,594	56	71	⁸ 77	491	¹¹ 1,008	¹⁰ 1,070	22	¹¹ 38	¹⁰ 36	6–14
2,819	3,499	⁶ 4,05	33	38	62	1,409	³⁴ 1,544	^{8,34} 1,869	11	11	⁸ 15	7–14
538	720	⁸ 739	53	73	⁸ 75	145	¹¹ 262	381	12	9	31	6–13
1,733	¹¹ 2,378	⁸ 3,318	39	50	⁸ 67	272	487	⁸ 644	9	13	⁸ 17	6–12
592	^{16,35} 786	—	53	55	¹⁰ 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	⁸ 378	21	35	⁸ 40	307	550	—	21	29	—	6–15
1,100	1,278	2,368	71	82	153	³⁶ 324	³⁶ 485	1,042	25	36	80	6–15

¹⁶ General education enrollment only. Excludes teacher training and vocational education enrollments.

¹⁷ Data for 1981–82

¹⁸ Does not include professional schools.

¹⁹ Includes initiation classes where students learn Portuguese.

²⁰ Data for 1992–93.

²¹ Data for 1993–94.

²² Not including the former Independent States of Transke, Bophuthatswana, Venda, and Ciskei.

²³ Data refer to government aided and maintained schools only.

²⁴ Not including private non-university institutions.

²⁵ Day schools only.

²⁶ Data for 1985–86

²⁷ Does not include medical science.

²⁸ Includes preprimary education.

²⁹ Excludes some non-university institutions.

³⁰ Includes full-time students only.

³¹ Data include both former East and West Germany.

Table 396. School-age populations as a percent of total population, by country: Selected years, 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 ¹	1990 ¹	1995 ¹	1996	1998	1999	1985 ²	1990 ²	1995 ²	1996	1998	1999
1	2	3	4	5	6	7	8	9	10	11	12	13
Australia	14	13	13	14	14	14	7	6	6	7	7	7
Belgium	11	11	11	12	12	12	6	5	5	6	6	6
Canada	13	12	12	13	14	14	6	5	5	7	7	7
Czech Republic	—	—	12	13	13	12	—	—	6	8	8	7
Denmark	12	10	10	11	11	12	6	6	5	6	6	5
Finland	11	12	11	13	13	13	6	5	5	6	6	6
France	13	12	12	13	13	13	6	6	5	7	7	7
Germany ³	9	9	10	11	11	11	6	4	4	5	6	6
Greece	—	—	11	12	11	11	—	5	6	7	7	7
Iceland	16	15	14	16	16	16	7	7	6	8	8	8
Ireland	18	18	15	17	16	15	8	8	8	9	9	9
Italy	13	10	9	10	10	10	6	6	5	6	6	5
Japan	14	12	10	11	11	10	6	7	5	7	6	6
Korea, Republic of	—	—	14	15	14	14	—	—	7	9	9	8
Luxembourg	10	10	11	12	12	12	5	4	4	5	6	6
Netherlands	12	11	11	12	12	12	7	5	5	6	6	6
New Zealand	15	13	13	15	15	15	7	7	6	7	7	7
Norway	13	11	11	13	13	13	6	6	5	6	6	6
Portugal	15	14	11	12	12	11	7	7	6	8	7	7
Russian Federation	—	—	14	16	—	14	—	—	6	7	—	8
Spain	15	13	10	11	11	10	7	7	6	8	7	7
Sweden	11	10	11	12	13	13	5	5	5	6	6	6
Switzerland	11	10	10	12	12	12	6	5	5	6	6	6
Turkey	21	21	20	20	21	21	9	9	9	11	11	11
United Kingdom	11	11	12	13	13	13	6	5	5	6	6	6
United States	13	13	13	15	14	15	6	5	6	7	7	7

—Not available.

¹ Data are for the 5- to 13-year-old population.² Data are for the 14- to 17-year-old population.³ 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 397. Percent of population enrolled in secondary and postsecondary institutions, by age group and country: 1985, 1990, and 1999**

Country	Secondary schools, 16 years old ¹	Secondary schools, 17 years old ¹	Postsecondary institutions								
			18 to 21 years old			22 to 25 years old			26 to 29 years old		
			1999	1999	1985	1990	1999	1985	1990	1999	1985
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 ²	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 ³	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 ⁴	88.5	81.0	33.2	35.6	35.9	14.6	17.3	18.5	8.2	8.6	10.9

—Not available.

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

NOTE: Some increases in enrollment rates may be due to more complete reporting by countries. Differences in reference dates between enrollment and population data can result in enrollment rates that exceed 100 percent.

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

Table 398. Pupils per teacher in public and private elementary and secondary schools, by level of education and country: Selected years, 1985 to 2001

Country	Elementary						Junior high schools (lower secondary)						Senior high schools (upper secondary)					
	1985	1990	1996	1999	2000	2001	1985	1990	1996	1999	2000	2001	1985	1990	1996	1999	2000	2001
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Australia	¹ 13.8	—	18.1	17.3	17.3	17.0	—	—	—	² 13.7	—	—	3.2	—	—	² 10.8	—	—
Austria	11.3	11.6	12.7	14.5	—	14.3	9.2	7.7	9.2	9.6	—	9.8	15.2	12.4	8.5	10.0	—	9.9
Belgium	—	—	—	13.9	15.0	13.4	—	—	—	—	—	—	—	—	—	—	—	—
Canada	18.1	17.1	17.0	18.7	18.1	18.3	16.0	15.5	20.0	18.7	18.1	18.4	16.0	15.3	19.5	20.0	19.5	17.2
Denmark	12.7	11.2	11.2	10.6	10.4	10.0	10.2	9.3	10.1	11.6	11.4	11.1	14.8	13.3	12.1	13.2	14.4	13.9
France	—	—	19.5	19.6	19.8	19.5	—	—	—	12.9	14.7	13.5	—	—	—	12.7	10.4	11.2
Germany ³	20.7	20.3	20.9	21.0	19.8	19.4	16.9	14.6	16.0	16.4	15.7	15.7	23.7	21.0	13.1	12.4	13.9	13.7
Ireland	—	—	22.6	21.6	21.5	20.3	—	—	—	—	15.9	15.2	7.2	8.3	—	—	—	—
Italy	12.8	10.7	11.2	11.3	11.0	10.8	9.6	8.5	10.8	10.3	10.4	9.9	10.8	10.7	9.8	10.2	10.2	10.4
Japan	—	¹ 20.8	19.7	21.2	20.9	20.6	—	18.6	16.2	17.1	16.8	16.6	—	16.2	15.6	14.1	14.0	14.0
Netherlands	20.2	19.2	20.0	16.6	16.8	17.2	12.7	12.4	—	—	—	—	—	—	—	—	—	—
New Zealand	20.1	19.1	22.0	20.5	20.6	19.6	—	—	18.1	19.8	19.9	18.7	—	—	14.1	12.8	13.1	12.8
Norway	—	—	—	12.6	12.4	11.6	—	—	—	10.1	9.9	9.3	—	—	—	9.9	9.7	9.2
Portugal	—	—	—	—	12.1	11.6	—	—	—	—	10.4	9.9	—	—	—	—	7.9	8.0
Spain	26.8	21.2	18.0	15.4	14.9	14.7	21.4	18.8	17.8	—	—	—	15.3	14.8	14.2	—	—	—
Sweden	11.6	10.6	12.7	13.3	12.8	12.4	10.8	10.2	12.2	13.3	12.8	12.4	13.1	11.9	15.2	15.5	15.2	16.6
Turkey	31.1	30.6	—	30.0	30.5	29.8	41.3	48.4	—	—	—	—	11.0	12.1	—	16.1	14.0	17.2
United Kingdom	19.7	22.0	21.3	22.5	21.2	20.5	—	18.5	16.0	17.4	² 17.6	² 17.3	11.1	13.9	15.3	² 12.4	² 12.5	² 12.3
United States	17.0	15.6	16.9	16.3	15.8	16.3	16.5	15.9	17.5	16.8	16.3	17.0	16.2	15.8	14.7	14.5	14.1	14.8

—Not available.

¹ Public schools only.² Includes only general programs.³ Data for 1985 are for the former West Germany.SOURCE: Organization for Economic Cooperation and Development (OECD), *Education at a Glance*, selected years 1985 to 2001; and previously unpublished tabulations. (This table was prepared September 2003.)**Table 399. Civic knowledge and civic engagement of 14-year-old students, by country: 1999**

Country	Civics mean scale score	Percentage of students who say that they are very likely or likely to vote in national elections	Percentage of students who believe that it is very important or important that a good citizen—				
			Votes in every election	Joins a political party	Engages in political discussions	Participates in activities to benefit people	Takes part in activities to protect the environment
1	2	3	4	5	6	7	8
OECD countries							
Australia	102 (0.8)	85 (1.0)	89 (0.8)	17 (1.0)	34 (1.1)	80 (1.0)	74 (1.1)
Belgium (French portion) ¹	95 (0.9)	69 (2.0)	82 (1.4)	24 (1.0)	39 (1.4)	54 (2.0)	71 (1.7)
Czech Republic	103 (0.8)	65 (1.7)	66 (1.1)	18 (1.0)	29 (1.4)	78 (0.9)	84 (1.0)
Denmark ¹	100 (0.5)	91 (0.7)	60 (1.0)	17 (0.8)	44 (0.9)	86 (0.8)	83 (0.7)
England	99 (0.6)	80 (1.0)	76 (1.1)	20 (0.9)	42 (1.3)	78 (1.0)	76 (1.1)
Finland	109 (0.7)	87 (0.7)	59 (1.2)	13 (0.8)	23 (1.1)	60 (1.0)	74 (1.0)
Germany ²	100 (0.5)	67 (1.1)	69 (0.9)	18 (0.7)	43 (1.2)	85 (0.9)	72 (1.2)
Greece	108 (0.8)	86 (0.9)	94 (0.6)	49 (1.0)	59 (1.0)	90 (0.7)	89 (0.7)
Hungary	102 (0.6)	91 (0.7)	81 (0.9)	29 (0.9)	21 (0.8)	89 (0.6)	77 (1.0)
Italy	105 (0.8)	80 (1.1)	84 (0.7)	32 (1.0)	49 (1.0)	82 (0.7)	79 (0.8)
Norway ¹	103 (0.5)	87 (0.7)	71 (0.9)	21 (0.8)	37 (1.0)	83 (0.8)	91 (0.6)
Poland	111 (1.7)	88 (1.2)	91 (0.8)	35 (1.2)	53 (1.4)	90 (0.8)	77 (0.8)
Portugal	96 (0.7)	88 (0.8)	71 (0.9)	36 (1.1)	40 (1.0)	94 (0.6)	92 (0.6)
Slovak Republic	105 (0.7)	93 (0.6)	91 (0.7)	23 (1.3)	51 (1.0)	87 (0.8)	87 (0.8)
Sweden	99 (0.8)	75 (1.4)	78 (1.0)	21 (0.9)	37 (1.5)	83 (1.2)	81 (1.3)
Switzerland	98 (0.8)	55 (1.3)	68 (1.2)	23 (1.1)	42 (1.2)	76 (0.9)	70 (1.2)
United States	106 (1.2)	85 (1.0)	83 (0.9)	48 (1.4)	58 (1.1)	88 (0.8)	83 (0.8)
Non-OECD countries							
Chile	88 (0.7)	74 (1.0)	91 (0.6)	46 (1.0)	34 (1.1)	88 (0.7)	90 (0.5)
Russian Federation ³	100 (1.3)	82 (1.0)	80 (1.2)	22 (1.4)	28 (1.4)	83 (1.1)	81 (1.3)
Slovenia	101 (0.5)	84 (1.0)	80 (0.8)	30 (0.9)	38 (1.0)	78 (0.8)	73 (1.0)

¹ Overall participation rate less than 85 percent.² National Desired Population does not cover all International Desired Population.³ Did not meet age/grade specification.

NOTE: Standard errors appear in parentheses.

SOURCE: International Association for the Evaluation of Educational Achievement (IEA), *IEA Civic Education Study, 2001*. (This table was prepared August 2002.)

Table 400. Average reading, mathematics, and science literacy scores of 15-year-olds, by sex and country: 2000

Country	Reading literacy			Mathematics literacy			Science literacy		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
1	2	3	4	5	6	7	8	9	10
OECD total¹	499 (2.0)	485 (2.3)	514 (2.0)	498 (2.1)	504 (2.6)	493 (2.3)	502 (2.0)	502 (2.5)	503 (2.0)
OECD average²	500 (0.6)	485 (0.8)	517 (0.7)	500 (0.7)	506 (1.0)	495 (0.9)	500 (0.7)	501 (0.9)	501 (0.8)
Australia	528 (3.5)	513 (4.0)	546 (4.7)	533 (3.5)	539 (4.1)	527 (5.1)	528 (3.5)	526 (3.9)	529 (4.8)
Austria	507 (2.4)	495 (3.2)	520 (3.6)	515 (2.5)	530 (4.0)	503 (3.7)	519 (2.6)	526 (3.8)	514 (4.3)
Belgium	507 (3.6)	492 (4.2)	525 (4.9)	520 (3.9)	524 (4.6)	518 (5.2)	496 (4.3)	496 (5.2)	498 (5.6)
Canada	534 (1.6)	519 (1.8)	551 (1.7)	533 (1.4)	539 (1.8)	529 (1.6)	529 (1.6)	529 (1.9)	531 (1.7)
Czech Republic	492 (2.4)	473 (4.1)	510 (2.5)	498 (2.8)	504 (4.4)	492 (3.0)	511 (2.4)	512 (3.8)	511 (3.2)
Denmark	497 (2.4)	485 (3.0)	510 (2.9)	514 (2.4)	522 (3.1)	507 (3.0)	481 (2.8)	488 (3.9)	476 (3.5)
Finland	546 (2.6)	520 (3.0)	571 (2.8)	536 (2.2)	537 (2.8)	536 (2.6)	538 (2.5)	534 (3.5)	541 (2.7)
France	505 (2.7)	490 (3.5)	519 (2.7)	517 (2.7)	525 (4.1)	511 (2.8)	500 (3.2)	504 (4.2)	498 (3.8)
Germany	484 (2.5)	468 (3.2)	502 (3.9)	490 (2.5)	498 (3.1)	483 (4.0)	487 (2.4)	489 (3.4)	487 (3.4)
Greece	474 (5.0)	456 (6.1)	493 (4.6)	447 (5.6)	451 (7.7)	444 (5.4)	461 (4.9)	457 (6.1)	464 (5.2)
Hungary	480 (4.0)	465 (5.3)	496 (4.3)	488 (4.0)	492 (5.2)	485 (4.9)	496 (4.2)	496 (5.8)	497 (5.0)
Iceland	507 (1.5)	488 (2.1)	528 (2.1)	514 (2.3)	513 (3.1)	518 (2.9)	496 (2.2)	495 (3.4)	499 (3.0)
Ireland	527 (3.2)	513 (4.2)	542 (3.6)	503 (2.7)	510 (4.0)	497 (3.4)	513 (3.2)	511 (4.2)	517 (4.2)
Italy	487 (2.9)	469 (5.1)	507 (3.6)	457 (2.9)	462 (5.3)	454 (3.8)	478 (3.1)	474 (5.6)	483 (3.9)
Japan	522 (5.2)	507 (6.7)	537 (5.4)	557 (5.5)	561 (7.3)	553 (5.9)	550 (5.5)	547 (7.2)	554 (5.9)
Korea, Republic of	525 (2.4)	519 (3.8)	533 (3.7)	547 (2.8)	559 (4.6)	532 (5.1)	552 (2.7)	561 (4.3)	541 (5.1)
Luxembourg	441 (1.6)	429 (2.6)	456 (2.3)	446 (2.0)	454 (3.0)	439 (3.2)	443 (2.3)	441 (3.6)	448 (3.2)
Mexico	422 (3.3)	411 (4.2)	432 (3.8)	387 (3.4)	393 (4.5)	382 (3.8)	422 (3.2)	423 (4.2)	419 (3.9)
Netherlands ³	— (—)	517 (4.8)	547 (3.8)	— (—)	569 (4.9)	558 (4.6)	— (—)	529 (6.3)	529 (5.1)
New Zealand	529 (2.8)	507 (4.2)	553 (3.8)	537 (3.1)	536 (5.0)	539 (4.1)	528 (2.4)	523 (4.6)	535 (3.8)
Norway	505 (2.8)	486 (3.8)	529 (2.9)	499 (2.8)	506 (3.8)	495 (2.9)	500 (2.8)	499 (4.1)	505 (3.3)
Poland	479 (4.5)	461 (6.0)	498 (5.5)	470 (5.5)	472 (7.5)	468 (6.3)	483 (5.1)	486 (6.1)	480 (6.5)
Portugal	470 (4.5)	458 (5.0)	482 (4.6)	454 (4.1)	464 (4.7)	446 (4.7)	459 (4.0)	456 (4.8)	462 (4.2)
Spain	493 (2.7)	481 (3.4)	505 (2.8)	476 (3.1)	487 (4.3)	469 (3.3)	491 (3.0)	492 (3.5)	491 (3.6)
Sweden	516 (2.2)	499 (2.6)	536 (2.5)	510 (2.5)	514 (3.2)	507 (3.0)	512 (2.5)	512 (3.5)	513 (2.9)
Switzerland	494 (4.3)	480 (4.9)	510 (4.5)	529 (4.4)	537 (5.3)	523 (4.8)	496 (4.4)	500 (5.7)	493 (4.7)
United Kingdom	523 (2.6)	512 (3.0)	537 (3.4)	529 (2.5)	534 (3.5)	526 (3.7)	532 (2.7)	535 (3.4)	531 (4.0)
United States	504 (7.1)	490 (8.4)	518 (6.2)	493 (7.6)	497 (8.9)	490 (7.3)	499 (7.3)	497 (8.9)	502 (6.5)
Non-OECD countries									
Brazil	396 (3.1)	388 (3.9)	404 (3.4)	334 (3.7)	349 (4.7)	322 (4.7)	375 (3.3)	376 (4.8)	376 (3.8)
Latvia	458 (5.3)	432 (5.5)	485 (5.4)	463 (4.5)	467 (5.3)	460 (5.6)	460 (5.6)	449 (6.4)	472 (5.8)
Liechtenstein	483 (4.1)	468 (7.3)	500 (6.8)	514 (7.0)	521 (11.5)	510 (11.1)	476 (7.1)	484 (10.9)	468 (9.3)
Russian Federation	462 (4.2)	443 (4.5)	481 (4.1)	478 (5.5)	478 (5.7)	479 (6.2)	460 (4.7)	453 (5.4)	467 (5.2)

—Not available.

¹ Refers to the mean of the data values for all OECD countries, to which each country contributes equally, regardless of the absolute size of the student population of each country.

² Refers to the average for OECD countries as a single entity, to which each country contributes in proportion to the number of 15-year-olds enrolled in its schools.

³ Response rate is too low to ensure comparability with other countries.

NOTE: Scales were designed to have an average score of 500 points, and standard deviation of 100. Standard errors appear in parentheses.

SOURCE: Organization for Economic Cooperation and Development (OECD), *Program for International Student Assessment (PISA), Knowledge and Skills for Life, 2000*. (This table was prepared August 2002.)

Table 401. Percentage distribution of 15-year-olds at selected reading literacy proficiency levels, by country: 2000

Country	Mean score	Percentage distribution at levels of proficiency					
		Below level 1 ¹	Level 1 ²	Level 2 ³	Level 3 ⁴	Level 4 ⁵	Level 5 ⁶
1	2	3	4	5	6	7	8
OECD total⁷	499 (2.0)	6.2 (0.4)	12.1 (0.4)	21.8 (0.4)	28.6 (0.4)	21.8 (0.4)	9.4 (0.4)
OECD average⁸	500 (0.6)	6.0 (0.1)	11.9 (0.2)	21.7 (0.2)	28.7 (0.2)	22.3 (0.2)	9.5 (0.1)
Australia	528 (3.5)	3.3 (0.5)	9.1 (0.8)	19.0 (1.1)	25.7 (1.1)	25.3 (0.9)	17.6 (1.2)
Austria	507 (2.4)	4.4 (0.4)	10.2 (0.6)	21.7 (0.9)	29.9 (1.2)	24.9 (1.0)	8.8 (0.8)
Belgium	507 (3.6)	7.7 (1.0)	11.3 (0.7)	16.8 (0.7)	25.8 (0.9)	26.3 (0.9)	12.0 (0.7)
Canada	534 (1.6)	2.4 (0.3)	7.2 (0.3)	18.0 (0.4)	28.0 (0.5)	27.7 (0.6)	16.8 (0.5)
Czech Republic	492 (2.4)	6.1 (0.6)	11.4 (0.7)	24.8 (1.2)	30.9 (1.1)	19.8 (0.8)	7.0 (0.6)
Denmark	497 (2.4)	5.9 (0.6)	12.0 (0.7)	22.5 (0.9)	29.5 (1.0)	22.0 (0.9)	8.1 (0.5)
Finland	546 (2.6)	1.7 (0.5)	5.2 (0.4)	14.3 (0.7)	28.7 (0.8)	31.6 (0.9)	18.5 (0.9)
France	505 (2.7)	4.2 (0.6)	11.0 (0.8)	22.0 (0.8)	30.6 (1.0)	23.7 (0.9)	8.5 (0.6)
Germany	484 (2.5)	9.9 (0.7)	12.7 (0.6)	22.3 (0.8)	26.8 (1.0)	19.4 (1.0)	8.8 (0.5)
Greece	474 (5.0)	8.7 (1.2)	15.7 (1.4)	25.9 (1.4)	28.1 (1.7)	16.7 (1.4)	5.0 (0.7)
Hungary	480 (4.0)	6.9 (0.7)	15.8 (1.2)	25.0 (1.1)	28.8 (1.3)	18.5 (1.1)	5.1 (0.8)
Iceland	507 (1.5)	4.0 (0.3)	10.5 (0.6)	22.0 (0.8)	30.8 (0.9)	23.6 (1.1)	9.1 (0.7)
Ireland	527 (3.2)	3.1 (0.5)	7.9 (0.8)	17.9 (0.9)	29.7 (1.1)	27.1 (1.1)	14.2 (0.8)
Italy	487 (2.9)	5.4 (0.9)	13.5 (0.9)	25.6 (1.0)	30.6 (1.0)	19.5 (1.1)	5.3 (0.5)
Japan	522 (5.2)	2.7 (0.6)	7.3 (1.1)	18.0 (1.3)	33.3 (1.3)	28.8 (1.7)	9.9 (1.1)
Korea, Republic of	525 (2.4)	0.9 (0.2)	4.8 (0.6)	18.6 (0.9)	38.8 (1.1)	31.1 (1.2)	5.7 (0.6)
Luxembourg	441 (1.6)	14.2 (0.7)	20.9 (0.8)	27.5 (1.3)	24.6 (1.1)	11.2 (0.5)	1.7 (0.3)
Mexico	422 (3.3)	16.1 (1.2)	28.1 (1.4)	30.3 (1.1)	18.8 (1.2)	6.0 (0.7)	0.9 (0.2)
New Zealand	529 (2.8)	4.8 (0.5)	8.9 (0.5)	17.2 (0.9)	24.6 (1.1)	25.8 (1.1)	18.7 (1.0)
Norway	505 (2.8)	6.3 (0.6)	11.2 (0.8)	19.5 (0.8)	28.1 (0.8)	23.7 (0.9)	11.2 (0.7)
Poland	479 (4.5)	8.7 (1.0)	14.6 (1.0)	24.1 (1.4)	28.2 (1.3)	18.6 (1.3)	5.9 (1.0)
Portugal	470 (4.5)	9.6 (1.0)	16.7 (1.2)	25.3 (1.0)	27.5 (1.2)	16.8 (1.1)	4.2 (0.5)
Spain	493 (2.7)	4.1 (0.5)	12.2 (0.9)	25.7 (0.7)	32.8 (1.0)	21.1 (0.9)	4.2 (0.5)
Sweden	516 (2.2)	3.3 (0.4)	9.3 (0.6)	20.3 (0.7)	30.4 (1.0)	25.6 (1.0)	11.2 (0.7)
Switzerland	494 (4.3)	7.0 (0.7)	13.3 (0.9)	21.4 (1.0)	28.0 (1.0)	21.0 (1.0)	9.2 (1.0)
United Kingdom	523 (2.6)	3.6 (0.4)	9.2 (0.5)	19.6 (0.7)	27.5 (0.9)	24.4 (0.9)	15.6 (1.0)
United States	504 (7.1)	6.4 (1.2)	11.5 (1.2)	21.0 (1.2)	27.4 (1.3)	21.5 (1.4)	12.2 (1.4)
Non-OECD countries							
Brazil	396 (3.1)	23.3 (1.4)	32.5 (1.2)	27.7 (1.3)	12.9 (1.1)	3.1 (0.5)	0.6 (0.2)
Latvia	458 (5.3)	12.7 (1.3)	17.9 (1.3)	26.3 (1.1)	25.2 (1.3)	13.8 (1.1)	4.1 (0.6)
Liechtenstein	483 (4.1)	7.6 (1.5)	14.5 (2.1)	23.2 (2.9)	30.1 (3.4)	19.5 (2.2)	5.1 (1.6)
Russian Federation	462 (4.2)	9.0 (1.0)	18.5 (1.1)	29.2 (0.8)	26.9 (1.1)	13.3 (1.0)	3.2 (0.5)

¹ Less than 335 score points. Although students at this level may have the technical capacity to read, they have serious difficulties in using reading literacy as an effective tool to advance knowledge.

² Between 335 and 407 score points. Indicates an ability to locate a single piece of information, identify the main theme of a text, or make a simple connection with everyday knowledge.

³ Between 408 and 480 score points. Indicates an ability to locate straightforward information, make low-level inferences, work out what a well-defined part of a text means, and use some outside knowledge to understand it.

⁴ Between 481 and 552 score points. Indicates an ability to locate multiple pieces of information, make links between different parts of a text, and relate it to familiar everyday knowledge.

⁵ Between 553 and 625 score points. Indicates an ability to locate embedded information, construe meaning from nuances of language, and critically evaluate a text.

⁶ Above 625 score points. Indicates an ability to manage information that is difficult to find in unfamiliar texts, show detailed understanding of such text, and evaluate critically and build hypotheses.

⁷ Refers to the mean of the data values for all OECD countries, to which each country contributes equally, regardless of the absolute size of the student population of each country.

⁸ Refers to the average for OECD countries as a single entity, to which each country contributes in proportion to the number of 15-year-olds enrolled in its schools.

NOTE: Mean score was designed to have an average of 500 points, and a standard deviation of 100. Standard errors appear in parentheses. Detail may not sum to totals due to rounding.

SOURCE: Organization for Economic Cooperation and Development, Program for International Student Assessment (PISA), *Knowledge and Skills for Life, 2000*. (This table was prepared August 2002.)

Table 402. Average 4th-grade mathematics scores, by content areas, average time spent studying mathematics out of school, and country: 1995

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, and number sense	Data representation, analysis, and probability	Geometry	Patterns, relations, and functions	No time		Less than 1 hour		1 hour or more		Average hours ¹	
								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 ²	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 ²	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 ²	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, SAR ³	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 ³	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 ⁴	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 ^{2,4}	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, Republic of	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 ²	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) ²	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 ²	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 ⁴	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 ²	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 ²	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.
¹Average 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.
²Countries not meeting all International Association for the Evaluation of Educational Achievement's sampling specifications.
³SAR=Special Administrative Region.
⁴Indicates a 70 to 84 percent student response rate on question about time spent studying mathematics, with missing data having not been explicitly accounted for in the analysis.

NOTE: Possible scores range from 1 to 1,000. Data are for fourth-grade students 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, *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 403. Average 8th-grade mathematics scores, by content areas, average time spent studying out of school, and 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
International average	487 (0.7)	487 (0.7)	487 (0.7)	487 (0.7)	487 (0.7)	487 (0.7)	10 (0.1)	455 (1.7)	50 (0.2)	495 (0.8)	40 (0.2)	486 (0.9)
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)	529 (4.8)	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)	483 (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, SAR ¹	582 (4.3)	579 (4.5)	556 (4.9)	569 (4.5)	547 (5.4)	567 (5.8)	25 (1.2)	552 (6.1)	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 ²	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)	60 (1.0)	445 (4.3)
Korea, Republic of	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) ²	505 (3.4)	496 (3.7)	522 (5.6)	499 (4.3)	495 (4.8)	505 (3.5)	3 (0.4)	480 (13.8)	58 (1.3)	516 (4.1)	40 (1.3)	493 (4.1)
Lithuania ²	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)	— (—)	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 (6.0)	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)	27 (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.
¹SAR=Special Administrative Region.
²Countries 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: Data are for 8th-grade or equivalent in most countries. Possible scores range from 1 to 1,000. Standard errors appear in parentheses. Detail may not sum to totals due to rounding.

Table 404. 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	15	16	17	18	19	20	
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)							
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)							
Bulgaria	48 (1.9)	89 (1.0)	32 (1.2)	15 (1.0)	21 (1.4)	14 (3.3)	543 (9.0)	8 (2.3)	498 (5.0)	73 (4.6)	8 (2.3)	4 (3.0)	606 (29.5)							
Canada	62 (1.4)	92 (0.5)	92 (0.5)	28 (1.1)	82 (1.2)	1 (0.9)	503 (6.3)	126 (2.7)	523 (6.1)	155 (3.2)	544 (3.9)	1 (1.7)	520 (6.4)							
Chile	47 (1.3)	89 (0.9)	40 (1.1)	46 (1.6)	55 (1.2)	1 (0.7)	—	3 (1.3)	414 (12.7)	83 (2.8)	391 (5.0)	13 (2.4)	394 (13.7)							
Chinese Taipei	55 (1.0)	91 (0.5)	59 (1.2)	55 (1.2)	34 (1.0)	# (#)	—	51 (4.5)	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)	# (#)	—	100 (#)	476 (1.8)	# (#)	—	# (#)	—							
Czech Republic	42 (1.8)	86 (1.1)	51 (2.4)	8 (0.6)	16 (1.6)	# (#)	—	44 (4.4)	517 (6.4)	52 (4.4)	517 (5.3)	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)	—	295 (2.0)	512 (5.3)	23 (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)	—							
Hong Kong, SAR ³	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)							
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)							
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)							
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)							
Israel	64 (1.3)	90 (0.6)	72 (1.2)	20 (1.0)	65 (1.5)	12 (1.2)	—	129 (3.9)	481 (8.5)	165 (4.1)	464 (5.8)	14 (1.5)	470 (28.7)							
Italy	64 (1.4)	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)							
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)	2 (1.3)	—	1 (1.3)	—							
Jordan	76 (0.9)	92 (0.6)	45 (1.1)	40 (1.4)	59 (1.1)	# (#)	—	88 (2.8)	424 (3.7)	7 (2.2)	439 (20.1)	5 (1.9)	463 (21.0)							
Korea, Republic of	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)	—							
Latvia (Latvian-speaking schools)	48 (1.8)	86 (1.0)	54 (1.2)	—	28 (1.6)	# (#)	—	31 (4.2)	491 (5.6)	62 (3.9)	516 (4.6)	7 (2.5)	487 (17.2)							
Lithuania ⁴	—	—	—	—	—	—	—	—	—	—	—	—	—							
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)	—	# (#)	—							
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)	—	# (#)	—							
Moldova	81 (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)							
Morocco	569 (0.8)	586 (0.6)	553 (1.0)	549 (1.1)	553 (1.2)	1 (0.6)	—	3 (1.0)	338 (10.5)	# (#)	—	96 (1.1)	337 (2.9)							
Netherlands	68 (3.7)	70 (2.7)	92 (1.1)	3 (0.7)	89 (1.5)	# (#)	—	100 (0.5)	537 (7.2)	# (#)	—	# (#)	—							
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 (#)	—							
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)							
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 (3.9)	483 (12.0)	9 (2.5)	477 (21.8)							
Russian Federation	53 (1.4)	78 (1.2)	62 (1.3)	19 (0.9)	10 (0.8)	# (#)	—	32 (3.8)	513 (8.5)	57 (4.1)	528 (7.7)	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)							
Slovak Republic	59 (1.9)	81 (1.0)	53 (1.6)	11 (0.8)	39 (1.9)	# (#)	—	44 (4.7)	534 (6.1)	50 (4.8)	534 (5.3)	5 (2.1)	503 (15.2)							
Slovenia	60 (1.7)	76 (1.5)	57 (1.8)	19 (0.9)	28 (1.9)	# (#)	—	74 (4.1)	528 (3.3)	26 (4.1)	537 (4.5)	# (#)	—							
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)							
Thailand	29 (1.2)	91 (0.7)	52 (1.1)	19 (1.0)	80 (0.9)	12 (1.4)	—	158 (5.1)	461 (7.3)	19 (3.3)	448 (18.5)	130 (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)	—							
Turkey	35 (1.1)	84 (0.7)	38 (0.9)	22 (0.8)	21 (1.2)	13 (2.7)	427 (11.0)	177 (3.4)	429 (5.0)	15 (1.6)	415 (10.5)	15 (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)	480 (9.2)							

—Not available.

Rounds to zero.

¹Teacher response data available for 70 to 84 percent of students, with missing data having not been explicitly accounted for in the analysis.

²Teacher response data available for 50 to 69 percent of students, with missing data having not been explicitly accounted for in the analysis.

³SAR=Special Administrative Region.

⁴Lithuania tested the same cohort of students as other countries, but later in 1999, at the beginning of the next school year.

⁵ Student response rate 70 to 84 percent.

NOTE: Data are for 8th-grade or equivalent in most countries. Possible scores range from 1 to 1,000. 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, 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 405. Average size of 8th-grade mathematics classes and frequency teachers assign mathematics homework, by country: 1999

Country	Overall average class size	Percentage 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	
		3	4	5	6	7	8	9	10	11	12	
Australia	27 (0.3)	9 (2.4)	91 (2.4)	# (#)	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)	# (#)	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)	# (#)	1 (0.7)	# (#)	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)	# (#)	14 (2.9)	86 (3.0)	# (#)	2 (1.1)	2 (1.1)	27 (3.4)	23 (3.4)	21 (3.1)	25 (3.6)	
Cyprus ¹	29 (0.2)	# (0.2)	100 (0.2)	# (#)	# (#)	# (#)	# (#)	2 (0.1)	# (#)	55 (5.1)	44 (4.9)	
Czech Republic ¹	24 (0.4)	18 (4.2)	82 (4.2)	# (#)	# (#)	13 (3.8)	# (#)	69 (5.1)	2 (1.3)	15 (3.7)	# (0.2)	
England	— (—)	— (—)	— (—)	— (—)	# (#)	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)	# (#)	# (#)	# (#)	# (#)	11 (2.2)	1 (0.8)	79 (3.0)	9 (2.3)	
Hong Kong, SAR ²	37 (0.5)	7 (1.8)	15 (3.0)	78 (3.4)	# (#)	2 (1.2)	1 (#)	26 (3.1)	23 (3.7)	30 (4.0)	19 (3.1)	
Hungary	21 (0.5)	48 (4.2)	51 (4.1)	1 (#)	# (#)	# (#)	# (#)	2 (1.0)	1 (#)	81 (2.9)	17 (3.0)	
Indonesia ¹	45 (0.9)	1 (0.3)	10 (2.3)	89 (2.4)	# (#)	# (#)	1 (0.8)	15 (3.2)	25 (4.2)	23 (4.1)	36 (4.2)	
Iran, Islamic Republic ³	33 (0.5)	5 (1.6)	57 (4.2)	38 (4.2)	# (#)	1 (#)	2 (0.9)	6 (1.9)	67 (4.5)	2 (1.5)	23 (4.0)	
Israel ¹	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 (#)	# (#)	# (#)	# (#)	5 (1.7)	12 (2.5)	15 (2.6)	68 (3.8)	
Japan	36 (0.2)	1 (#)	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)	# (#)	# (#)	# (#)	8 (2.4)	4 (1.2)	61 (4.0)	28 (3.7)	
Korea, Republic of	42 (0.5)	# (#)	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) ¹	22 (0.5)	45 (4.2)	55 (4.2)	# (#)	# (#)	2 (1.4)	# (#)	7 (2.5)	1 (0.9)	70 (3.9)	20 (3.7)	
Lithuania	23 (0.3)	32 (2.8)	68 (2.8)	# (#)	# (#)	# (#)	# (#)	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)	# (#)	1 (0.6)	# (#)	16 (3.1)	4 (1.7)	44 (4.3)	36 (4.4)	
Malaysia	38 (0.6)	1 (#)	26 (3.7)	73 (3.6)	# (#)	1 (#)	# (#)	3 (1.5)	6 (2.0)	24 (3.5)	66 (3.9)	
Moldova ¹	26 (0.4)	15 (3.0)	83 (3.3)	2 (1.6)	# (#)	# (#)	2 (1.2)	4 (2.1)	38 (4.3)	54 (4.2)	54 (4.2)	
Morocco ¹	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 ¹	25 (0.5)	13 (4.1)	87 (4.1)	# (#)	1 (0.6)	1 (0.6)	# (#)	13 (3.3)	3 (1.3)	73 (4.4)	9 (2.6)	
New Zealand	25 (0.4)	17 (2.9)	82 (2.8)	1 (#)	1 (0.8)	2 (1.1)	# (#)	32 (3.5)	3 (1.2)	58 (3.9)	2 (1.4)	
Philippines ¹	50 (0.6)	# (#)	5 (1.5)	95 (1.5)	# (#)	2 (1.1)	# (#)	10 (2.6)	# (#)	74 (3.2)	14 (3.0)	
Romania	24 (0.4)	30 (2.9)	65 (3.2)	5 (1.9)	# (#)	# (#)	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)	# (#)	# (#)	# (#)	# (#)	# (0.5)	# (#)	42 (4.5)	57 (4.6)	
Singapore	37 (0.3)	1 (0.4)	32 (3.8)	68 (3.8)	# (#)	# (#)	# (#)	8 (2.1)	12 (2.4)	26 (4.2)	54 (4.3)	
Slovak Republic	25 (0.4)	15 (2.6)	85 (2.6)	# (0.2)	1 (#)	3 (1.8)	# (#)	12 (3.2)	1 (#)	81 (3.5)	2 (1.5)	
Slovenia	22 (0.3)	29 (3.2)	71 (3.2)	# (#)	# (#)	# (#)	# (#)	3 (1.5)	# (#)	79 (3.1)	17 (2.8)	
South Africa ¹	50 (1.4)	2 (0.8)	14 (2.6)	85 (2.7)	# (#)	# (#)	# (#)	10 (2.6)	4 (1.4)	64 (4.1)	22 (3.2)	
Thailand ¹	42 (0.9)	3 (1.0)	23 (3.9)	75 (3.7)	# (#)	# (#)	# (#)	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 ⁴	43 (1.3)	2 (1.1)	28 (3.9)	70 (3.9)	# (#)	4 (1.4)	# (0.3)	35 (4.1)	39 (4.3)	10 (2.4)	12 (2.4)	
United States ¹	26 (0.7)	21 (2.6)	73 (3.0)	6 (1.4)	1 (0.7)	1 (0.7)	# (#)	7 (1.6)	1 (0.6)	63 (2.8)	27 (2.4)	

—Not available.

Rounds to zero.

¹ Teacher response data on class size available for 70 to 84 percent of students, with missing data having not been explicitly accounted for in the analysis.² SAR=Special Administrative Region.³ Teacher response data on mathematics assignments available for 50 to 69 percent of students, with missing data having not been explicitly accounted for in the analysis.⁴ 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 406. 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 ¹				
	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	26 (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 (0.03)	1.1 (0.03)	1.9 (0.03)	0.7 (0.04)	0.8 (0.03)	
Chile	15 (0.6)	444 (8.7)	27 (0.7)	408 (4.7)	35 (0.7)	382 (4.7)	23 (0.8)	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)	0.8 (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)	0.6 (0.02)	1.1 (0.04)	
Hong Kong, SAR ²	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 (0.05)	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 ³	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, Republic of	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)	37 (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 ⁴	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 (1.1)	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)	593 (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 ⁵	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)	

¹Average 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.
²SAR=Special Administrative Region.
³Student response data on reading for enjoyment available for 70 to 84 percent of students, with missing data having not been explicitly accounted for in the analysis.
⁴Student response data available for 70 to 84 percent of students, with missing data having not been explicitly accounted for in the analysis.
⁵Student response data for playing computer games available for 70 to 84 percent of students, with missing data having not been explicitly accounted for in the analysis.

NOTE: Data are for 8th-grade or equivalent in most countries. Possible scores range from 1 to 1,000. 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 407. Average mathematics scores at the end of secondary school, by sex, average time spent studying mathematics out of school, and country: 1995

Country	Average score in mathematics			Amount of daily out-of-school study time in mathematics						Average hours ¹
	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 ²	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 ²	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 ²	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 ²	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)	# (0.2)	— (—)	0.4 (0.03)
Denmark ²	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 ²	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 ²	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 ²	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 ²	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 ²	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 ²	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 ²	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 ²	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 ²	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 ²	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 ²	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.

Rounds to zero.

¹ 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 = 7.² 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. Possible

scores range from 1 to 1,000. 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 4th-grade science scores, by content areas, average time spent teaching science in school, and country: 1995

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	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 ^{1,2}	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 ¹	66 (0.7)	62 (0.6)	72 (0.7)	64 (0.8)	54 (1.0)	# (#)	— (—)	# (#)	— (—)	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 ^{3,4}	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, SAR ⁵	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)	— (—)	1 (0.8)	— (—)
Hungary ¹	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 ²	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 (5.0)	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 ^{1,2,6}	57 (0.8)	51 (0.8)	61 (0.9)	55 (0.9)	51 (1.3)	# (#)	— (—)	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, Republic of	74 (0.4)	72 (0.5)	76 (0.4)	75 (0.5)	70 (0.8)	# (#)	— (—)	1 (0.6)	— (—)	95 (1.8)	597 (1.9)	5 (1.7)	588 (10.3)
Kuwait ^{1,2}	39 (0.5)	36 (0.6)	45 (0.6)	37 (0.5)	25 (0.7)	# (#)	— (—)	1 (0.7)	— (—)	96 (2.0)	402 (3.9)	4 (1.8)	416 (42.2)
Latvia (Latvian-speaking schools) ^{1,6}	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 ¹	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 ²	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 ²	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)	# (#)	— (—)	# (#)	— (—)
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 ^{2,3}	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)	# (#)	— (—)	4 (1.5)	548 (18.9)	96 (1.5)	547 (5.1)	# (#)	— (—)
Slovenia ¹	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 ^{1,2}	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 ²	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)

Rounds to zero.
 — Not available.
¹ Did not satisfy one or more guidelines for sample participation rates, age/grade specification, or classroom sampling procedures.
² Teacher response rate for number of hours science is taught is 84 percent or less, with missing data having not been explicitly accounted for in the analysis.
³ Met guidelines for sample participation rates only after replacement schools were included.
⁴ National defined population covers less than 90 percent of international desired population.
⁵ SAR=Special Administrative Region.
⁶ National defined population does not cover all of international desired population.
 NOTE: Data are for 4th-grade or equivalent in most countries. Possible scores range from 1 to 1,000. 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 409. Average 8th-grade science scores, by content areas, average time spent studying out of school, and 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	
International average	488 (0.7)	488 (0.9)	488 (0.7)	488 (0.9)	488 (0.8)	488 (0.7)	488 (0.7)	14 (0.2)	462 (1.2)	49 (0.2)	495 (1.0)	36 (0.2)	486 (1.0)	
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 (5.8)	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)	8 (0.6)	511 (10.8)	
Hong Kong, SAR ¹	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 (6.0)	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 ²	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)	45 (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)	12 (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, Republic of	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) ²	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 ²	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 (4.4)	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)	41 (1.7)	335 (6.4)	
Netherlands	545 (6.9)	534 (7.2)	536 (7.2)	537 (6.5)	515 (6.4)	526 (8.5)	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 (5.0)	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 (4.8)	50 (1.1)	480 (4.8)	42 (1.2)	483 (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.

¹SAR=Special Administrative Region.²Countries not meeting all International Association for the Evaluation of Educational Achievement's sampling specifications.

NOTE: Data are for 8th-grade or equivalent in most countries. Possible scores range from 1 to 1,000. 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 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 410. 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 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	15	16	17	18	19	20	
1																				
Australia ¹	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 ²	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)	—	# (#)	394 (—)							
Chinese Taipei ³	50 (1.4)	88 (0.7)	61 (1.3)	52 (1.3)	29 (0.9)	—	—	—	—	—	—	—	—							
Cyprus ²	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)	# (#)	—	# (#)	—							
England ²	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 ⁴	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 ⁵	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 ¹	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)	# (#)	—							
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)	# (#)	—	# (#)	—							
Jordan	71 (1.2)	91 (0.8)	50 (1.2)	55 (1.4)	57 (1.0)	1 (#)	—	25 (3.6)	458 (9.4)	63 (4.1)	449 (4.8)	11 (2.8)	441 (15.2)							
Korea, Republic of	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)	# (#)	—							
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 ¹	36 (1.2)	75 (1.2)	56 (1.1)	42 (1.7)	81 (0.8)	1 (1.0)	—	76 (4.2)	491 (5.5)	# (#)	—	23 (4.1)	461 (10.8)							
Tunisia	54 (1.2)	79 (0.8)	44 (1.2)	69 (0.9)	29 (1.0)	63 (4.1)	432 (4.2)	36 (4.1)	425 (4.3)	1 (#)	—	# (#)	—							
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 ¹	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.
 # Rounds to zero.
¹ Teacher response data on hours taught weekly available for 70 to 84 percent of students, with missing data having not been explicitly accounted for in the analysis.
² Teacher response data on hours taught weekly available for 50 to 69 percent of students, with missing data having not been explicitly accounted for in the analysis.
³ Students were asked about "natural science;" data pertain to grade 8 physics/chemistry.
⁴ SAR=Special Administrative Region.
⁵ 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. Possible scores range from 1 to 1,000. 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 411. Average science scores at the end of secondary school, by sex, average time spent studying science out of school, and country: 1995

Country	Average score in science			Amount of daily out-of-school study time in science						Average hours ¹
	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 ²	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 ²	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 ²	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 ²	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 ²	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 ²	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 ²	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 ²	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 ²	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 ²	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 ²	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 ²	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 ²	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 ²	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 ²	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 ²	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.

¹ 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 = 7.² 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. Possible

scores range from 1 to 1,000. 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 412. Number of bachelor's degree recipients per 100 persons of the theoretical age of graduation, by sex and country: Selected years, 1989 to 2000

Country	Men and women							Men					Women				
	1989	1990	1992	1995	1996	1999	2000	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	18
Australia	19.6	—	28.5	34.9	36.0	27.0	36.3	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	16.0	7.6	8.5	—	10.6	11.4	5.5	6.8	—	8.9	9.6
Belgium ¹	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	27.9	—	—	27.6	26.4	26.5	—	—	37.6	37.4	37.4
Czech Republic	—	—	—	—	—	10.8	13.6	—	—	—	—	—	—	—	—	—	—
Denmark	12.9	15.0	22.3	28.5	28.0	—	9.2	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	36.3	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	24.6	13.7	14.7	—	—	—	13.9	15.1	—	—	—
Germany ²	13.2	12.9	—	16.2	16.1	16.0	19.3	16.1	15.7	—	18.2	18.2	10.1	10.0	—	14.0	13.5
Hungary	—	—	—	—	—	26.9	—	—	—	—	—	—	—	—	—	—	—
Iceland	—	—	—	—	—	28.9	33.2	—	—	—	—	—	—	—	—	—	—
Ireland	16.4	17.4	17.8	21.2	25.5	26.0	31.2	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	18.1	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	30.9	—	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	28.1	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	10.4	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	37.5	—	—	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	33.2	25.5	26.2	24.6	29.3	30.6	29.2	31.1	30.3	37.3	38.9

—Not available.

¹ Data for Flemish Belgium only.² 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 the typical age of graduation. Data for 1999

and 2000 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 2002*, and previously unpublished tabulations. (This table was prepared August 2003.)

Table 413. Percent of bachelor's degrees awarded in science, by field and country: Selected years, 1985 to 2000

Country	All science degrees					Natural sciences					Mathematics and computer science					Engineering				
	1985	1990	1995	1999	2000	1985	1990	1995	1999	2000	1985	1990	1995	1999	2000	1985	1990	1995	1999	2000
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Australia	—	—	19.3	19.4	21.1	—	—	9.9	7.0	7.6	—	—	3.8	4.5	5.1	—	—	5.6	7.9	8.5
Austria	16.8	19.6	21.1	26.0	25.7	5.0	5.3	6.0	6.3	5.0	4.1	5.2	5.3	3.2	3.4	7.7	9.0	9.9	16.5	17.3
Belgium ¹	—	—	—	25.3	—	4.6	—	—	6.1	—	1.7	—	—	2.3	—	—	—	—	17.0	—
Canada	17.1	16.4	16.7	19.7	20.0	4.9	6.0	6.5	8.2	8.1	4.5	4.2	3.8	4.0	4.3	7.7	6.2	6.4	7.5	7.6
Czech Republic	—	—	—	29.3	29.5	—	—	—	3.8	4.2	—	—	—	3.0	8.4	—	—	—	22.5	16.9
Denmark	—	—	—	—	10.5	6.3	4.4	2.5	—	6.8	—	—	—	—	3.1	16.2	21.7	17.0	—	0.6
Finland	39.3	33.5	37.2	33.2	32.2	7.7	4.1	4.0	0.6	3.9	6.3	5.9	6.9	2.4	3.3	25.3	23.4	26.3	30.2	24.9
France	—	—	—	27.1	30.1	—	—	—	—	12.2	—	—	—	—	5.5	—	—	—	—	12.5
Germany ²	23.8	31.3	31.6	33.5	31.7	5.0	7.2	6.7	6.9	6.4	2.3	3.5	5.2	5.2	4.9	16.5	20.5	19.7	21.4	20.3
Hungary	—	—	—	17.3	12.6	—	—	—	1.1	1.1	—	—	—	1.3	1.2	—	—	—	14.9	10.4
Iceland	—	—	—	13.6	16.5	—	—	—	6.1	6.0	—	—	—	2.6	4.0	—	—	—	4.9	6.5
Ireland	28.8	34.1	32.3	25.8	29.3	12.8	14.1	16.9	8.8	11.5	4.0	6.3	4.7	7.1	7.2	12.0	13.7	10.7	10.0	10.6
Italy	19.5	19.7	19.5	27.6	27.5	8.1	7.6	6.8	6.0	5.9	3.1	3.9	3.8	3.4	3.2	8.3	8.3	8.9	18.2	18.4
Japan	22.7	23.5	22.8	18.9	18.9	2.4	2.4	3.4	—	—	—	—	—	—	—	20.3	21.0	19.3	18.9	18.9
Korea, Republic of	—	—	—	36.7	36.9	—	—	—	6.3	6.3	—	—	—	4.5	4.3	—	—	—	25.9	26.3
Mexico	—	—	—	22.9	23.0	—	—	—	2.1	2.2	—	—	—	7.0	6.7	—	—	—	13.8	14.1
Netherlands	21.8	21.1	—	16.5	16.2	8.5	7.1	—	3.2	3.2	1.2	1.6	1.6	1.7	1.9	12.1	12.4	—	11.6	11.1
New Zealand	20.5	19.5	—	18.6	17.8	11.7	8.2	—	12.1	11.2	5.5	5.5	—	1.6	1.9	3.3	5.8	3.2	5.0	4.7
Norway	—	12.9	16.8	12.8	11.6	2.5	2.1	3.1	0.8	0.7	1.8	0.6	0.5	2.8	3.4	—	10.2	13.2	9.3	7.5
Poland	—	—	—	16.5	16.7	—	—	—	2.1	2.7	—	—	—	1.8	2.0	—	—	—	12.6	12.0
Portugal	—	—	15.0	—	17.5	6.5	6.7	2.2	—	1.7	—	—	2.8	—	3.6	—	10.5	9.9	—	12.2
Spain	13.9	15.0	18.2	21.0	22.7	5.5	5.7	4.3	4.8	5.3	1.3	2.6	4.5	3.9	4.3	7.0	6.7	9.4	12.3	13.1
Sweden	15.4	24.0	26.4	25.0	27.7	2.6	4.1	3.9	3.6	3.7	1.6	4.7	5.5	3.0	3.7	11.3	15.2	17.0	18.4	20.3
Switzerland	20.2	23.0	22.3	25.1	25.1	10.3	11.2	10.4	6.5	6.0	2.1	3.7	3.7	1.8	1.8	7.9	8.1	8.3	16.8	17.3
Turkey	23.0	20.6	20.9	24.2	24.1	3.6	4.6	5.1	7.1	7.4	1.6	2.1	2.7	3.7	3.6	17.8	13.8	13.1	13.4	13.1
United Kingdom	—	—	—	28.9	28.5	—	—	—	9.8	12.5	—	—	—	6.4	5.8	—	—	—	12.7	10.2
United States	21.7	16.9	—	17.4	17.1	6.3	5.1	—	7.2	6.6	5.5	4.0	3.3	3.3	3.9	9.8	7.8	6.7	6.9	6.6

—Not available.

¹ Data for the Flemish Belgium only.² Data for 1985 are for the former West Germany.

SOURCE: Organization for Economic Cooperation and Development, previously unpublished tabulations. (This table was prepared May 2003.)

Table 415. Public and private education expenditures per student, by level of education and country: 1999 and 2000

[In constant 2000 dollars]

Country	Primary		Secondary		Higher education	
	1999	2000	1999	2000	1999	2000
1	2	3	4	5	6	7
Australia	\$5,022	\$4,967	\$7,081	\$6,894	\$12,121	\$12,854
Austria	6,790	6,560	8,791	8,578	12,478	10,851
Belgium	4,498	4,310	7,018	6,889	10,395	10,771
Canada	—	—	¹ 6,183	¹ 5,947	15,725	14,983
Czech Republic	1,829	1,827	3,517	3,239	5,880	5,431
Denmark	6,948	7,074	7,884	7,726	11,017	11,981
Finland	4,278	4,317	6,061	6,094	8,388	8,244
France	4,247	4,486	7,382	7,636	8,095	8,373
Germany	3,947	4,198	6,826	6,826	10,744	10,898
Greece ²	2,249	3,318	3,002	3,859	4,404	3,402
Hungary ²	2,253	2,245	2,448	2,446	6,059	7,024
Iceland ²	—	5,854	—	6,518	—	7,994
Ireland	3,120	3,385	4,531	4,638	10,000	11,083
Italy ²	5,535	5,973	6,738	7,218	7,807	8,065
Japan	5,417	5,507	6,243	6,266	10,625	10,914
Korea, Republic of	2,934	3,155	3,534	4,069	5,537	6,118
Luxembourg	—	—	—	—	—	—
Mexico	1,133	1,291	1,530	1,615	4,951	4,688
Netherlands	4,303	4,325	5,861	5,912	12,700	11,934
New Zealand	—	—	—	—	—	—
Norway ²	6,120	6,550	7,886	8,476	12,504	13,353
Poland ²	2,165	2,105	1,388	—	4,008	3,222
Portugal	3,595	3,672	5,356	5,349	4,964	4,766
Slovak Republic	—	1,308	2,236	1,927	5,505	4,949
Spain	3,758	3,941	5,028	5,185	5,900	6,666
Sweden	5,930	6,336	6,111	6,339	14,702	15,097
Switzerland ²	6,888	6,631	10,085	9,780	18,605	18,450
Turkey ²	—	—	—	—	4,474	4,121
United Kingdom	3,749	3,877	5,797	5,991	9,877	9,657
United States	6,804	6,995	8,432	8,855	19,869	20,358

—Not available.

¹ Includes primary education.² Public institutions only.SOURCE: Organization for Economic Cooperation and Development (OECD), *Education at a Glance, 2002* and *Education at a Glance, 2003*. (This table was prepared September 2003.)

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

Table 416. Total public direct expenditures on education as a percentage of the gross domestic product, by level and country: Selected years, 1985 to 2000

Country	All institutions ¹					Primary and secondary institutions					Higher education institutions				
	1985	1990	1995	1999	2000	1985	1990	1995	1999	2000	1985	1990	1995	1999	2000
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Average for year	5.3	4.9	4.9	5.1	5.2	3.7	3.5	3.4	3.5	3.5	1.1	1.0	0.9	1.2	1.2
Average for countries reporting data for all years	5.4	5.2	5.3	5.6	5.4	3.7	3.7	3.6	3.7	3.6	1.1	1.1	1.1	1.4	1.4
Australia	5.4	4.3	4.5	5.0	5.1	3.5	3.2	3.2	3.8	3.9	1.7	1.0	1.2	1.2	1.2
Austria	5.6	5.2	5.3	6.3	5.8	3.7	3.6	3.8	4.1	3.8	1.0	1.0	0.9	1.7	1.4
Belgium ²	6.3	4.8	5.0	5.5	5.2	4.0	3.4	3.4	3.5	3.4	1.0	0.8	0.9	1.5	1.3
Canada	6.1	5.4	5.8	5.7	5.5	4.1	3.7	4.0	3.5	3.3	2.0	1.5	1.5	1.9	2.0
Czech Republic	—	—	4.8	4.4	4.4	—	—	3.4	3.0	3.0	—	—	0.7	0.8	0.8
Denmark	6.2	6.2	6.5	8.1	8.4	4.7	4.4	4.2	4.8	4.8	1.2	1.3	1.3	2.4	2.5
Finland	5.8	6.4	6.6	6.2	6.0	—	4.3	4.2	3.8	3.6	—	1.2	1.7	2.1	2.0
France	—	5.1	5.8	6.0	5.8	—	3.7	4.1	4.2	4.1	—	0.8	1.0	1.1	1.0
Germany ³	4.6	—	4.5	4.7	4.5	2.8	—	2.9	3.0	3.0	1.0	—	1.0	1.1	1.1
Greece	—	—	3.7	3.6	3.8	—	—	2.8	2.4	2.7	—	—	0.8	1.1	0.9
Hungary	—	5.0	4.9	4.7	4.9	—	3.5	3.3	2.9	3.1	—	0.8	0.8	0.9	1.0
Iceland	—	4.3	4.5	—	6.0	—	3.3	3.4	—	4.7	—	0.6	0.7	—	1.1
Ireland	5.6	4.7	4.7	4.3	4.4	4.0	3.3	3.3	3.1	3.0	0.9	0.9	0.9	1.2	1.3
Italy	4.7	5.8	4.5	4.5	4.6	3.2	4.1	3.2	3.2	3.2	0.6	1.0	0.7	0.8	0.8
Japan	—	3.6	3.6	3.5	3.6	—	2.9	2.8	2.7	2.7	—	0.4	0.4	0.5	0.5
Korea, Republic of	—	—	3.6	4.1	4.3	—	—	3.0	3.2	3.3	—	—	0.3	0.6	0.7
Luxembourg	—	—	4.3	—	—	—	—	4.2	—	—	—	—	0.1	—	—
Mexico	—	3.2	4.6	4.4	4.9	—	2.2	3.4	3.1	3.4	—	0.7	0.8	0.8	0.9
Netherlands	6.2	5.7	4.6	4.8	4.8	4.1	3.6	3.0	3.1	3.2	1.5	1.6	1.1	1.3	1.3
New Zealand	—	5.5	5.3	6.3	7.0	—	3.9	3.8	4.8	4.9	—	1.2	1.1	1.2	1.7
Norway	5.1	6.2	6.8	7.4	6.7	4.0	4.1	4.1	4.3	3.9	0.7	1.1	1.5	2.0	1.7
Poland	—	—	5.2	5.2	5.2	—	—	3.3	3.6	3.8	—	—	0.8	0.8	0.8
Portugal	—	—	5.4	5.7	5.7	—	—	4.1	4.2	4.2	—	—	1.0	1.0	1.0
Russian Federation	—	—	3.4	⁴ 3.0	3.0	—	—	1.9	—	1.7	—	—	0.7	—	0.5
Spain	3.6	4.2	4.8	4.5	4.4	2.9	3.2	3.5	3.3	3.1	0.4	0.7	0.8	0.9	1.0
Sweden	—	5.3	6.6	7.7	7.4	—	4.4	4.4	5.1	4.9	—	1.0	1.6	2.1	2.0
Switzerland	4.9	5.0	5.5	5.5	5.4	4.0	3.7	4.1	4.0	3.9	0.9	1.0	1.1	1.2	1.2
Turkey	—	3.2	2.2	4.0	3.5	—	2.3	1.4	2.9	2.4	—	0.9	0.8	1.1	1.1
United Kingdom	4.9	4.3	4.6	4.7	4.8	3.1	3.5	3.8	3.3	3.4	1.0	0.7	0.7	1.1	1.0
United States	4.7	5.3	5.0	5.2	5.0	3.2	3.8	3.5	3.5	3.5	1.3	1.4	1.1	1.4	1.1

—Not available.

¹ Includes preprimary and other expenditures not classified by level.² Data are for Flemish Belgium only.³ Data for 1985 are for the former West Germany.⁴ Data are for 2000.

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, or households. Figures for 1985 also include transfers and payments to private entities, and thus are not strictly comparable with later figures. Some data revised from previously published figures.

SOURCE: Organization for Economic Cooperation and Development (OECD), *Education Database; Annual National Accounts*, Vol. 1, 1997; and *Education at a Glance*, 2000 through 2003. (This table was prepared September 2003.)

Table 417. Foreign students enrolled in institutions of higher education in the United States and outlying areas, by continent, region, and selected countries of origin: Selected years, 1980–81 to 2001–02

Continent, region, and country	1980–81		1985–86		1990–91		1995–96		1998–99		1999–2000		2000–01		2001–02	
	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
Total	311,880	100.0	343,780	100.0	407,530	100.0	453,787	100.00	490,933	100.0	514,723	100.0	547,867	100.0	582,996	100.0
Africa	38,180	12.2	34,190	9.9	23,800	5.8	20,844	4.59	26,222	5.3	30,292	5.9	34,217	6.2	37,724	6.5
Eastern Africa	6,260	2.0	6,730	2.0	7,590	1.9	7,596	1.67	10,189	2.1	11,559	2.2	13,516	2.5	15,331	2.6
Central Africa	1,130	0.4	1,540	0.4	1,650	0.4	1,346	0.30	1,413	0.3	1,775	0.3	1,859	0.3	1,972	0.3
North Africa	7,310	2.3	5,980	1.7	4,540	1.1	3,422	0.75	4,151	0.8	4,525	0.9	5,184	0.9	5,593	1.0
Southern Africa	1,480	0.5	2,360	0.7	2,840	0.7	2,657	0.59	2,956	0.6	3,247	0.6	3,304	0.6	3,443	0.6
West Africa	22,000	7.1	17,580	5.1	7,180	1.8	5,818	1.28	7,513	1.5	9,176	1.8	10,346	1.9	11,385	2.0
Nigeria	17,350	5.6	13,710	4.0	3,710	0.9	2,093	0.46	2,876	0.6	3,602	0.7	3,820	0.7	4,499	0.8
Asia	94,640	30.3	156,830	45.6	229,830	56.4	259,893	57.27	275,076	56.0	280,146	54.4	302,058	55.1	324,812	55.7
East Asia	51,650	16.6	80,720	23.5	146,020	35.8	166,717	36.74	177,141	36.1	180,146	35.0	189,371	34.6	196,813	33.8
China	2,770	0.9	13,980	4.1	39,600	9.7	39,613	8.73	51,001	10.4	54,466	10.6	59,939	10.9	63,211	10.8
Hong Kong	9,660	3.1	10,710	3.1	12,630	3.1	12,018	2.65	8,735	1.8	7,545	1.5	7,627	1.4	7,757	1.3
Japan	13,500	4.3	13,360	3.9	36,610	9.0	45,531	10.03	46,406	9.5	46,872	9.1	46,497	8.5	46,810	8.0
Korea, Republic of	6,150	2.0	18,660	5.4	23,360	5.7	36,231	7.98	39,199	8.0	41,191	8.0	45,685	8.3	49,046	8.4
Taiwan	19,460	6.2	23,770	6.9	33,530	8.2	32,702	7.21	31,043	6.3	29,234	5.7	28,566	5.2	28,930	5.0
South and Central Asia	14,540	4.7	25,800	7.5	42,370	10.4	45,401	10.00	52,602	10.7	58,148	11.3	71,765	13.1	86,131	14.8
India	9,250	3.0	16,070	4.7	28,860	7.1	31,743	7.00	37,482	7.6	42,337	8.2	54,664	10.0	66,836	11.5
Pakistan	2,990	1.0	5,440	1.6	7,730	1.9	6,427	1.42	5,905	1.2	6,107	1.2	6,948	1.3	8,644	1.5
South East Asia	28,450	9.1	50,310	14.6	41,440	10.2	47,774	10.53	45,333	9.2	41,852	8.1	40,916	7.5	41,868	7.2
Indonesia	3,250	1.0	8,210	2.4	9,520	2.3	12,820	2.83	12,142	2.5	11,300	2.2	11,625	2.1	11,614	2.0
Malaysia	6,010	1.9	23,020	6.7	13,610	3.3	14,015	3.09	11,557	2.4	9,074	1.8	7,795	1.4	7,395	1.3
Philippines	—	—	3,920	1.1	4,270	1.0	3,127	0.69	2,864	0.6	3,143	0.6	3,139	0.6	3,295	0.6
Singapore	—	—	3,930	1.1	4,500	1.1	4,098	0.90	4,030	0.8	4,250	0.8	4,166	0.8	4,141	0.7
Thailand	6,550	2.1	6,940	2.0	7,090	1.7	12,165	2.68	12,489	2.5	10,983	2.1	11,187	2.0	11,606	2.0
Europe	25,330	8.1	34,310	10.0	49,640	12.2	67,358	14.84	73,809	15.0	78,485	15.2	80,584	14.7	81,579	14.0
Eastern Europe	1,670	0.5	1,770	0.5	4,780	1.2	18,032	3.97	23,131	4.7	25,731	5.0	27,674	5.1	29,591	5.1
Western Europe	23,660	7.6	32,540	9.5	44,860	11.0	49,326	10.87	50,674	10.3	52,754	10.2	52,910	9.7	51,988	8.9
France	—	—	3,680	1.1	5,630	1.4	5,710	1.26	6,241	1.3	6,877	1.3	7,273	1.3	7,401	1.3
Germany ¹	3,310	1.1	4,730	1.4	7,000	1.7	9,017	1.99	9,568	1.9	9,800	1.9	10,128	1.8	9,613	1.6
Greece	3,750	1.2	4,440	1.3	4,360	1.1	3,365	0.74	2,847	0.6	2,782	0.5	2,768	0.5	2,599	0.4
Spain	—	—	1,740	0.5	4,300	1.1	4,809	1.06	4,195	0.9	4,337	0.8	4,156	0.8	4,048	0.7
United Kingdom	4,440	1.4	5,940	1.7	7,300	1.8	7,799	1.72	7,765	1.6	7,990	1.6	8,139	1.5	8,414	1.4
Latin America	49,810	16.0	45,480	13.2	47,580	11.7	47,253	10.41	55,436	11.3	62,098	12.1	63,634	11.6	68,358	11.7
Caribbean	10,650	3.4	11,100	3.2	12,610	3.1	10,737	2.37	11,884	2.4	13,828	2.7	14,423	2.6	13,879	2.4
Central America	12,970	4.2	12,740	3.7	15,950	3.9	14,220	3.13	15,455	3.1	16,854	3.3	16,764	3.1	18,826	3.2
Mexico	6,730	2.2	5,460	1.6	6,740	1.7	8,687	1.91	9,641	2.0	10,607	2.1	10,670	1.9	12,518	2.1
South America	26,190	8.4	21,640	6.3	19,020	4.7	22,296	4.91	28,097	5.7	31,416	6.1	32,447	5.9	35,653	6.1
Brazil	—	—	2,840	0.8	3,900	1.0	5,497	1.21	8,052	1.6	8,600	1.7	8,846	1.6	8,972	1.5
Colombia	—	—	4,010	1.2	3,180	0.8	3,462	0.76	5,041	1.0	6,277	1.2	6,765	1.2	8,068	1.4
Venezuela	11,750	3.8	7,040	2.0	2,890	0.7	4,456	0.98	5,133	1.0	5,125	1.0	5,217	1.0	5,627	1.0
Middle East	84,710	27.2	52,720	15.3	33,420	8.2	30,563	6.74	32,836	6.7	34,897	6.8	36,858	6.7	38,545	6.6
Iran	47,550	15.2	14,210	4.1	6,260	1.5	2,628	0.58	1,660	0.3	1,885	0.4	1,844	0.3	2,216	0.4
Jordan	6,140	2.0	6,590	1.9	4,320	1.1	2,222	0.49	2,039	0.4	2,074	0.4	2,187	0.4	2,417	0.4
Lebanon	6,770	2.2	7,090	2.1	3,900	1.0	1,554	0.34	1,315	0.3	1,582	0.3	2,005	0.4	2,435	0.4
Saudi Arabia	10,440	3.3	6,900	2.0	3,590	0.9	4,191	0.92	4,931	1.0	5,156	1.0	5,273	1.0	5,579	1.0
Turkey	—	—	2,460	0.7	4,080	1.0	7,678	1.69	9,377	1.9	10,100	2.0	10,983	2.0	12,091	2.1
North America²	14,790	4.7	16,030	4.7	18,950	4.6	23,644	5.21	23,302	4.7	24,128	4.7	25,888	4.7	27,039	4.6
Canada	14,320	4.6	15,410	4.5	18,350	4.5	23,005	5.07	22,746	4.6	23,544	4.6	25,279	4.6	26,514	4.5
Oceania	4,180	1.3	4,030	1.2	4,230	1.0	4,202	0.93	4,228	0.9	4,676	0.9	4,624	0.8	4,852	0.8
Stateless³	240	0.1	190	0.1	80	#	30	#	28	#	7	#	10	#	87	#

—Not available.

Rounds to zero.

¹ Data for 1980–81 and 1985–86 are for West Germany (Federal Republic of Germany before unification).² Excludes Mexico and Central America, which are included with Latin America.³ Home country unknown or undeclared.

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 © 2002 by the Institute of International Education. All rights reserved.) (This table was prepared July 2003.)

