

Appendix table 1-1
**Differences between male and female student average scale scores in mathematics and science, by age:
 Selected years, 1969–99**

Field and year	Male minus female		
	Age 9	Age 13	Age 17
Mathematics			
1973	-3*	-2*	8*
1978	-3*	-1	7
1982	-4*	1	6
1986	0	2	5
1990	-1	2	3
1992	2	2	4
1994	2	3	4
1996	4	4	5
1999	2	3	3
Science			
1969	NA	NA	17*
1970	5	4	NA
1973	4	5	16*
1977	4	7	15
1982	0	11*	17*
1986	6	9	13
1990	3	7	10
1992	8*	4	10
1994	2	5	11
1996	3	9	8
1999	3	6	10

NA not available

*Significantly different from 1999. Small differences between male and female scores are often not statistically significant. For example, the male/female differences were not statistically significant in 1999 for all three ages in mathematics and for 9-year-olds in science.

NOTES: Student performance on the long-term trend assessment is reported on a 0- to 500-point scale. Numbers represent the difference between male and female scores.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *NAEP 1999 Trends in Academic Progress: Three Decades of Student Performance*, NCES 2000-469 (Washington, DC: U.S. Department of Education, 2000).

Appendix table 1-2
Differences between white and black student and white and Hispanic student average scale scores in mathematics and science, by age: Selected years, 1969–99

Field and year	White minus black			White minus Hispanic		
	Age 9	Age 13	Age 17	Age 9	Age 13	Age 17
Mathematics						
1973	35*	46*	40*	23	35*	33*
1978	32	42*	38*	21	34*	30
1982	29	34	32	20*	22	27
1986	25	24*	29	21	19	24
1990	27	27	21*	21	22	26
1992	27	29	26	23	20	20
1994	25	29	27	27	25	22
1996	25	29	27	22	25	21
1999	28	32	31	26	24	22
Science						
1969	NA	NA	54	NA	NA	NA
1970	57*	49*	NA	NA	NA	NA
1973	55*	53*	54	NA	NA	NA
1977	55*	48*	57	38	43	35
1982	42	40	58	40	32	44*
1986	36	38	45	32	33	38
1990	41	38	48	31	32	39
1992	39	43	48	34	30*	34
1994	39	43	49	39	34	45
1996	37	40	47	32	34	38
1999	41	39	52	34	39	30

NA not available

*Significantly different from 1999.

NOTES: Student performance on the long-term trend assessment is reported on a 0- to 500-point scale. Numbers represent the differences between whites and blacks and whites and Hispanics.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *NAEP 1999 Trends in Academic Progress: Three Decades of Student Performance*, NCES 2000-469 (Washington, DC: U.S. Department of Education, 2000).

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Appendix table 1-3

Average scale scores in mathematics and science, by parental education level: Selected years, 1978–99

Variable	1978	1982	1986	1990	1992	1994	1996	1999
Mathematics								
13-year-olds								
Less than high school graduate	245	251	252	253	256	255	254	256
High school graduate.....	263	263	263	263	263	266	267	264
Some education after high school.....	273	275	274	277	278	277	277	279
College graduate	284	282	280	280	283	285	283	286
I don't know	240	252	247	248	253	252	259	258
17-year-olds								
Less than high school graduate	280	279	279	285	285	284	281	289
High school graduate.....	294	293	293	294	298	295	297	299
Some education after high school.....	305	304	305	308	308	305	307	308
College graduate	317	312	314	316	316	318	317	317
I don't know	276	272	281	277	290	283	287	285
Science								
13-year-olds								
Less than high school graduate	223	225	229	233	234	234	230	229
High school graduate.....	245	243	245	247	246	247	248	243
Some education after high school.....	260	259	258	263	266	260	261	261
College graduate	266	263	264	267	269	269	266	268
I don't know	222	229	227	224	232	230	236	232
17-year-olds								
Less than high school graduate	265	259	258	261	262	256	259	264
High school graduate.....	284	275	277	276	280	279	282	281
Some education after high school.....	296	290	295	296	296	295	297	297
College graduate	309	300	304	306	308	311	308	307
I don't know	253	252	245	248	258	247	258	265

NOTES: Scale scores can range from 0 to 500. The highest education level achieved by either parent is represented.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *NAEP 1999 Trends in Academic Progress: Three Decades of Student Performance*, NCES 2000-469 (Washington, DC: U.S. Department of Education, 2000).

Appendix table 1-4
Students at or above basic and proficient levels in mathematics and science, grades 4, 8, and 12, by sex:
1996 and 2000
 (Percent)

Variable	1996			2000		
	Grade 4	Grade 8	Grade 12	Grade 4	Grade 8	Grade 12
Mathematics						
At or above basic						
Male.....	65*	62*	70*	70	67	66
Female.....	63*	63	69*	68	65	64
At or above proficient						
Male.....	24*	25*	18	28	29	20
Female.....	19*	23	14	24	25	14
Science						
At or above basic						
Male.....	68	62	60*	69	64	54
Female.....	67	61	55	64	57	51
At or above proficient						
Male.....	31	31*	25	33	36	21
Female.....	27	27	17	26	27	16

*Significantly different from 2000.

SOURCES: U.S. Department of Education, National Center for Education Statistics (NCES), *The Nation's Report Card: Mathematics 2000*, NCES 2001-517 (Washington, DC: U.S. Department of Education, 2001); and NCES, *The Nation's Report Card: Science 2000*, NCES 2003-453 (Washington, DC: U.S. Department of Education, 2003).

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Appendix table 1-5
Students at or above basic and proficient levels in mathematics and science, grades 4, 8, and 12, by race/ethnicity: 1996 and 2000
 (Percent)

Race/ethnicity	1996			2000		
	Grade 4	Grade 8	Grade 12	Grade 4	Grade 8	Grade 12
Mathematics						
At or above basic						
White	76	74	79	80	77	74
Asian/Pacific Islander	73	NA	81	NA	76	80
Black.....	32	28	38	39	32	31
Hispanic	41	39	50	48	41	44
American Indian/Alaskan Native.....	52	51	34	53	42	57
At or above proficient						
White	28*	31	20	34	35	2
Asian/Pacific Islander	26	NA	33	NA	41	34
Black.....	5	4	4	5	6	3
Hispanic	8	9	6	10	10	4
American Indian/Alaskan Native	8	13	3	14	9	10
Science						
At or above basic						
White	79	73	68*	79	74	62
Asian/Pacific Islander	66	62	56	NA	64	59
Black.....	34	24	23	34	26	22
Hispanic	42	36	33	42	35	30
American Indian/Alaskan Native	59	60	52	57	39	44
At or above proficient						
White	37	37	27	38	41	23
Asian/Pacific Islander	29	30	22	NA	37	26
Black.....	7	5	4	7	7	3
Hispanic	9	11	7	11	12	7
American Indian/Alaskan Native	26	24	10	19	14	9

NA not available

*Significantly different from 2000.

NOTE: Special analyses raised concerns about accuracy and precision of the national results for Asian/Pacific Islander fourth graders in mathematics and science in 2000 and eighth graders in mathematics in 1996; therefore, the National Center for Education Statistics (NCES) did not publish these results.

SOURCES: U.S. Department of Education, NCES, *The Nation's Report Card: Mathematics 2000*, NCES 2001-517 (Washington, DC: U.S. Department of Education, 2001); and NCES, *The Nation's Report Card: Science 2000*, NCES 2003-453 (Washington, DC: U.S. Department of Education, 2003).

Appendix table 1-6
Mathematics literacy scores of 15-year-olds, by country and percentile: 2000

Country	Mean score	Percentile			
		5th	25th	75th	95th
Japan	557	402	504	617	688
South Korea	547	400	493	606	676
New Zealand	537	365	472	607	689
Finland	536	400	484	592	664
Australia	533	380	474	594	679
Canada	533	390	477	592	668
Switzerland.....	529	354	466	601	682
United Kingdom	529	374	470	592	676
Belgium	520	322	453	597	672
France	517	364	457	581	657
Austria.....	515	355	455	581	661
Denmark	515	366	458	575	649
Iceland	514	372	459	572	649
Liechtenstein.....	514	343	454	579	665
Sweden	510	347	450	574	656
Ireland	503	357	449	561	630
Norway	499	340	439	565	643
Czech Republic.....	498	335	433	564	655
OECD country mean.....	498	318	429	572	658
United States.....	493	327	427	562	652
Germany.....	490	311	423	563	649
Hungary.....	488	327	419	558	648
Russian Federation	478	305	407	552	648
Spain	476	323	416	540	621
Poland	470	296	402	542	632
Latvia	463	288	394	536	625
Italy	457	301	398	520	600
Portugal.....	454	297	392	520	596
Greece.....	447	260	375	524	617
Luxembourg	446	281	390	509	588
Mexico.....	387	254	329	445	527
Brazil	334	179	266	399	499

OECD Organisation for Economic Co-operation and Development

Average significantly above United States

Average significantly below United States

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Outcomes of Learning: Results From the 2000 Program for International Student Assessment of 15-Year-Olds in Reading, Mathematics, and Science Literacy*, NCES 2002-115 (Washington, DC: U.S. Department of Education, 2001).

Appendix table 1-7
Science literacy scores of 15-year-olds, by country and percentile: 2000

Country	Mean score	Percentile			
		5th	25th	75th	95th
South Korea	552	411	499	610	674
Japan	550	391	495	612	688
Finland	538	391	481	598	674
United Kingdom	532	366	466	602	687
Canada	529	380	469	592	670
New Zealand	528	357	459	600	683
Australia	528	368	463	596	676
Austria	519	363	456	584	659
Ireland	513	361	450	578	661
Sweden	512	357	446	578	660
Czech Republic	511	355	449	577	663
France	501	329	429	575	663
Norway	500	338	437	569	649
OECD country mean	500	332	431	572	657
United States	500	330	430	571	658
Belgium	496	292	424	577	656
Hungary	496	328	423	570	659
Iceland	496	351	436	558	635
Switzerland	496	332	427	567	656
Spain	491	333	425	558	643
Germany	487	314	417	560	649
Poland	483	326	415	553	639
Denmark	481	310	410	554	645
Italy	478	315	411	547	633
Liechtenstein	476	314	409	543	629
Greece	461	300	393	530	616
Latvia	460	299	393	528	620
Russian Federation	460	299	392	529	625
Portugal	459	317	397	521	604
Luxembourg	443	278	382	510	593
Mexico	422	303	368	472	554
Brazil	375	230	315	432	531

OECD Organisation for Economic Co-operation and Development

Average significantly above United States

Average significantly below United States

SOURCE: OECD, Program for International Student Assessment (PISA) database, 2001. See chapter A, table A6.2, www.oecd.org/els/education/eag2002 and www.pisa.oecd.org.

Appendix table 1-8
**High school graduates who attended schools offering advanced mathematics courses (1990, 1994, and 1998),
 by school characteristics in 1998**
 (Percent)

Year and characteristic	Any trigonometry/ algebra III	Any precalculus/ analysis	Any statistics/ probability	Calculus	
				Any	AP/IB
1990	83.4	73.5	24.1	79.2	NA
1994	78.3	76.9	34.8	84.9	NA
1998	70.6	80.7	35.5	85.9	64.2
School urbanicity					
Urban	66.7	92.2	40.3	90.4	78.1
Suburban	70.3	89.4	40.5	85.7	69.0
Rural	75.0	58.6	24.6	81.6	44.2
School size ^a					
Small.....	59.0	65.0	24.7	66.9	30.0
Medium.....	77.0	80.9	35.6	90.4	70.2
Large	64.5	94.8	45.1	91.5	79.5
School poverty ^b					
Very low	74.9	91.8	46.2	87.1	71.6
Low.....	69.2	78.9	41.6	89.6	67.7
Medium.....	74.2	74.7	20.4	82.6	53.3
High	74.5	62.1	8.5	75.7	64.0

AP Advanced Placement

IB International Baccalaureate

NA not available

^aSmall = fewer than 600 students enrolled, medium = 600–1,800, and large = more than 1,800.

^bMeasured by percentage of students eligible for free or reduced-priced lunches: very low = 5 percent or less, low = 6–25 percent, medium = 26–50 percent, and high = 51–100 percent.

NOTES: AP and IB courses were coded separately in 1998 and 2000 but not in prior years. AP/IB calculus courses are counted both in their specific column and in the “any calculus” column. Before 1998, AP and IB courses were coded with the general set of courses.

SOURCE: U.S. Department of Education, National Center for Education Statistics, High School Transcript Studies, various years.

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Appendix table 1-9
High school graduates who attended schools offering advanced science courses (1990, 1994, and 1998), by school characteristics in 1998
 (Percent)

Year and characteristic	Advanced biology		Chemistry		Physics		Advanced biology, chemistry, and physics
	Any	AP	Any	AP/IB	Any	AP/IB	
1990	93.0	NA	99.1	NA	97.4	NA	90.2
1994	96.7	NA	99.0	NA	97.0	NA	93.3
1998	95.5	46.3	98.0	39.4	94.6	27.3	90.6
School urbanicity							
Urban	98.2	52.5	98.8	46.5	98.7	35.6	97.5
Suburban	97.9	59.2	98.1	51.7	96.1	35.6	93.3
Rural	90.0	24.2	96.9	17.1	88.7	8.9	80.5
School size ^a							
Small.....	85.8	13.1	93.4	7.4	88.2	7.0	79.9
Medium.....	97.2	48.1	99.4	41.5	94.8	27.5	91.4
Large	100.0	71.7	98.4	63.2	100.0	45.4	98.4
School poverty ^b							
Very low	95.2	58.1	99.3	61.7	98.4	45.0	94.7
Low.....	97.8	48.0	98.0	33.6	97.2	24.7	94.3
Medium.....	95.3	42.2	97.4	28.2	96.4	18.3	92.5
High	90.3	44.4	99.3	36.7	89.5	18.6	81.5

AP Advanced Placement
 IB International Baccalaureate
 NA not available

^aSmall = fewer than 600 students enrolled, medium = 600–1,800, and large = more than 1,800.

^bMeasured by the percentage of students eligible for free or reduced-priced lunches: very low = 5 percent or less, low = 6–25 percent, medium = 26–50 percent, and high = 51–100 percent.

NOTES: AP and IB courses were coded separately in 1998 and 2000 but not in prior years. AP/IB courses are counted both in their specific columns and in columns that correspond to the general course category. For example, AP chemistry is included in the “any chemistry” column in addition to being listed in its own column. Before 1998, AP and IB courses were coded with the general set of courses.

SOURCE: U.S. Department of Education, National Center for Education Statistics, High School Transcript Studies, various years.

Appendix table 1-10
High school graduates completing advanced mathematics courses (1990, 1994, and 1998), by student and school characteristics in 1998
 (Percent)

Year and characteristic	Any trigonometry/ algebra III	Any precalculus/ analysis	Any statistics/ probability	Calculus	
				Any	AP/IB
1990	20.7	13.6	1.0	7.2	NA
1994	24.0	17.4	2.1	10.2	NA
1998	20.8	23.1	3.7	11.9	6.3
Male	19.4	23.1	3.4	12.0	6.8
Female	22.5	22.9	4.0	11.6	6.0
White	23.6	25.1	4.3	13.1	7.0
Asian/Pacific Islander	18.0	41.4	3.8	20.1	13.1
Black	15.5	14.0	2.1	7.2	3.3
Hispanic	10.9	15.4	1.7	7.1	3.7
School urbanicity					
Urban	19.0	28.5	3.6	13.2	7.7
Suburban	20.9	26.7	4.0	12.1	7.5
Rural	22.6	13.4	3.4	10.4	3.5
School size ^a					
Small	22.2	21.9	3.6	10.8	3.4
Medium	21.9	22.8	3.8	12.9	6.9
Large	16.7	25.1	3.4	10.3	7.7
School poverty ^b					
Very low	26.3	35.4	6.5	15.6	8.8
Low	18.1	23.6	4.3	12.0	6.7
Medium	22.4	14.9	1.7	9.2	3.9
High	23.6	9.8	0.8	6.9	4.9

AP Advanced Placement

IB International Baccalaureate

NA not available

^aSmall = fewer than 600 students enrolled, medium = 600–1,800, and large = more than 1,800.

^bMeasured by percentage of students eligible for free or reduced-priced lunches: very low = 5 percent or less, low = 6–25 percent, medium = 26–50 percent, and high = 51–100 percent.

NOTES: AP and IB courses were coded separately in 1998 and 2000 but not in prior years. AP/IB calculus courses are counted both in their specific column and in the “any calculus” column. Before 1998, AP and IB courses were coded with the general set of courses.

SOURCE: U.S. Department of Education, National Center for Education Statistics, High School Transcript Studies, various years.

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Appendix table 1-11
High school graduates completing advanced science courses (1990, 1994, and 1998), by student and school characteristics in 1998
 (Percent)

Year and characteristic	Advanced biology		Chemistry		Physics		Advanced biology, chemistry, and physics
	Any	AP/IB	Any	AP/IB	Any	AP/IB	
1990	27.5	NA	45.0	NA	21.5	NA	7.4
1994	34.8	NA	50.4	NA	24.5	NA	9.9
1998	37.4	4.9	56.4	2.9	28.6	1.7	12.1
Male	33.8	4.0	53.3	3.3	31.0	2.3	11.8
Female	40.8	5.8	59.2	2.6	26.6	1.2	12.3
White	38.5	5.0	58.8	2.9	31.1	1.8	13.4
Asian/Pacific Islander ...	43.0	14.0	63.7	9.5	37.4	4.8	15.7
Black	35.8	3.4	51.1	1.2	20.3	0.8	7.6
Hispanic	31.2	3.1	45.5	2.9	19.4	1.3	8.2
School urbanicity							
Urban	43.0	5.9	62.4	3.9	30.8	2.7	14.0
Suburban	39.4	5.9	56.1	3.2	31.2	2.0	14.6
Rural	29.3	2.6	50.9	1.6	23.1	0.4	7.3
School size ^a							
Small	36.4	2.9	57.7	0.9	25.7	0.3	11.7
Medium	36.8	4.9	56.6	2.9	31.0	1.9	13.4
Large	40.1	6.6	55.0	4.8	24.8	2.6	9.2
School poverty ^b							
Very low	37.9	6.4	71.2	4.8	43.0	3.6	17.8
Low	39.4	4.6	54.2	1.9	26.9	0.9	11.7
Medium	34.1	3.4	52.4	2.2	23.6	1.3	10.2
High	37.7	5.3	50.7	2.1	17.4	1.0	7.5

AP Advanced Placement
 IB International Baccalaureate
 NA not available

^aSmall = fewer than 600 students enrolled, medium = 600–1,800, and large = more than 1,800.

^bMeasured by percentage of students eligible for free or reduced-priced lunches: very low = 5 percent or less, low = 6–25 percent, medium = 26–50 percent, and high = 51–100 percent.

NOTES: AP and IB courses were coded separately in 1998 and 2000 but not in prior years. AP/IB courses are counted both in their specific columns and in columns that correspond to the general course category. For example, AP chemistry is included in the “any chemistry” column in addition to being listed in its own column. Before 1998, AP and IB courses were coded with the general set of courses.

SOURCE: U.S. Department of Education, National Center for Education Statistics, High School Transcript Studies, various years.

Appendix table 1-12

Public school teachers, by type of certification in main assignment field: 1999–2000

Certification	All teachers	Mathematics and science teachers
Advanced or regular.....	87	81
Probationary.....	3	3
Provisionary or alternative.....	3	4
Temporary.....	1	1
Emergency.....	1	1
None.....	6	10

NOTE: Percents may not sum to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1999–2000.

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Appendix table 1-13

Public high school students whose mathematics and science teachers majored or minored in various subject fields, by poverty level and minority enrollment in school: 1999–2000

(Percent distribution)

Subject and school characteristics	Mathematics/ statistics major	Mathematics/ statistics minor	Mathematics education major	Science, computer science, or engineering major	Other major
Mathematics					
Students in poverty (percent)					
0–10	45.1	3.7	31.3	4.0	15.9
More than 10 to 50.....	37.6	5.2	34.4	4.0	18.8
More than 50.....	43.4	5.8	23.6	10.3	17.0
Minority enrollment (percent)					
0–5	42.5	3.7	35.3	2.4	16.2
More than 5 to 45.....	39.4	4.4	35.7	4.1	16.3
More than 45.....	41.6	6.6	24.5	7.3	19.9
Biology/life sciences					
Students in poverty (percent)					
0–10	62.6	5.7	7.0	7.8	16.9
More than 10 to 50.....	61.2	7.1	8.0	11.6	12.0
More than 50.....	62.5	6.4	2.7	7.0	21.4
Minority enrollment (percent)					
0–5	59.8	7.9	5.4	13.5	13.4
More than 5 to 45.....	64.2	4.6	6.0	8.4	16.7
More than 45.....	64.4	7.8	7.0	6.5	14.3
Physical sciences					
Students in poverty (percent)					
0–10	41.8	10.7	14.4	15.5	17.6
More than 10 to 50.....	40.9	14.2	13.1	15.2	16.6
More than 50.....	30.8	15.7	26.1	6.0	21.5
Minority enrollment (percent)					
0–5	41.4	11.2	14.4	19.3	13.6
More than 5 to 45.....	41.7	14.3	15.0	13.4	15.7
More than 45.....	40.7	14.3	18.2	7.4	19.4

NOTES: Students in poverty are those who are approved to receive free or reduced-priced lunches. Percents may not sum to 100 because of rounding. Physical sciences include chemistry, geology/earth sciences, physics, other natural sciences (except biology/life sciences), and engineering.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1999–2000.

Appendix table 1-14

Public middle and high school mathematics and science teachers who entered profession between 1995–96 and 1999–2000 and participated in induction and mentoring activities in first year and those with either no or 10 weeks or more of practice teaching, by school level, poverty level, and minority enrollment in school: 1999–2000

(Percent)

School characteristic	Mathematics teachers				Science teachers			
	Induction program	Mentor	No practice teaching	Practice teaching for 10 weeks or more	Induction program	Mentor	No practice teaching	Practice teaching for 10 weeks or more
Total	61.0	66.1	11.3	73.9	66.5	60.8	16.7	66.0
Middle school	58.8	72.8	6.9	75.8	73.9	64.3	15.5	64.3
High school	62.2	62.5	13.7	72.9	61.4	58.4	17.6	67.2
Students in poverty (percent)								
0–10	55.9	57.9	8.4	82.5	70.0	57.1	11.0	74.9
More than 10 to 50	66.1	64.4	12.7	71.5	59.8	54.6	16.9	65.0
More than 50	60.9	63.9	28.6	61.3	50.8	61.9	32.8	48.2
Minority enrollment (percent)								
0–5	62.5	64.3	4.0	81.4	61.7	57.0	7.2	76.6
More than 5 to 45	66.3	61.0	8.8	77.1	66.8	62.1	13.5	72.9
More than 45	54.8	63.2	29.2	59.5	52.8	54.2	32.3	51.2

NOTE: Students in poverty are those who are approved to receive free or reduced-price lunches.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1999–2000.

Appendix table 1-15

Public middle and high school mathematics and science teachers who entered profession between 1995–96 and 1999–2000 and reported feeling well prepared in various aspects of teaching in first year, by participation in induction and mentoring activities: 1999–2000

(Percent)

Subject and activity	Handle classroom management and discipline	Use variety of instructional methods	Teach subject matter	Use computers in classroom instruction	Plan lessons effectively	Assess students	Select/adapt curriculum and instructional materials
All mathematics teachers	50.5	65.1	90.1	41.5	77.5	69.7	53.9
Induction program							
Yes	50.8	67.2	89.4	45.1	78.2	70.9	55.8
No	50.0	61.8	91.1	35.7	76.4	67.9	51.0
Mentor							
Yes	53.5	68.7	89.6	41.8	79.3	72.6	57.1
No	44.6	58.2	91.0	40.8	74.0	64.1	47.8
All science teachers.....	50.8	66.0	82.9	48.0	69.4	68.8	58.6
Induction program							
Yes	51.7	70.1	83.8	51.3	74.7	72.5	63.6
No	49.1	58.0	81.0	41.5	59.0	61.6	48.6
Mentor							
Yes	56.6	73.6	84.9	51.5	75.3	74.3	64.6
No	42.0	54.4	79.7	42.6	60.3	60.4	49.2

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1999–2000.

Appendix table 1-16

Public middle and high school mathematics and science teachers who thought various professional development programs they attended in past 12 months were useful, by time spent in such programs: 1999–2000

(Percent)

Time in program (hours)	Indepth study of content	Content and performance standards	Methods of teaching	Uses of computers for instruction	Student assessment	Student discipline/ classroom management
Mathematics teachers						
1–8	48.9	35.7	40.9	47.6	39.5	45.0
More than 8.....	73.3	63.5	65.1	74.7	64.8	65.9
Science teachers						
1–8	58.6	38.9	38.7	50.6	34.8	35.0
More than 8.....	77.4	59.8	62.9	78.6	60.7	70.3

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1999–2000.

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Appendix table 1-17

Public middle and high school teachers who reported that various problems in their schools were moderate or serious, by school level, poverty level, and minority enrollment in school: 1999–2000

(Percent)

School characteristic	Student tardiness	Student absenteeism	Truancy	Disrespect for teachers	Student apathy	Lack of parental involvement	Students unprepared to learn
All middle and high schools	48.0	57.3	29.2	54.7	65.4	62.6	70.7
Middle school	32.6	42.2	10.2	54.3	58.8	58.3	68.3
High school	56.2	65.3	39.4	54.9	68.9	64.9	71.9
Students in poverty (percent)							
0–10	51.6	54.5	31.3	50.7	61.8	48.9	58.7
More than 10 to 50	55.7	67.9	39.0	56.3	71.6	70.0	76.0
More than 50	67.4	78.2	55.7	61.2	74.0	81.8	84.6
Minority enrollment (percent)							
0–5	44.9	54.9	22.1	49.9	66.3	59.4	67.7
More than 5 to 45	53.2	62.1	36.2	52.0	66.3	58.6	67.2
More than 45	71.8	80.2	60.7	64.5	75.8	80.9	84.2

NOTE: Students in poverty are those who are approved to receive free or reduced-price lunches.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1999–2000.

Appendix table 1-18

Computer use by public high school teachers, by subject and minority enrollment in school: 1999–2000

(Percent)

Subject and minority enrollment	Computers used in class	Purpose of computer use ^a					
		Practice/master skills	Solve problems	Learn course material	Work collaboratively	Produce multimedia projects	Correspond with experts
Mathematics							
All teachers	81.8	39.5	41.0	42.7	32.1	7.4	4.7
Minority students (percent)							
0–5	79.8	33.4	35.6	35.8	30.4	11.7	6.2
More than 5 to 45.....	80.1	36.4	38.7	38.7	29.8	4.1	3.8
More than 45.....	86.3	47.5	47.2	51.8	36.4	8.7	5.0
Science							
All teachers	90.1	18.5	22.5	33.4	29.7	12.7	7.8
Minority students (percent)							
0–5	92.4	15.1	19.7	29.5	26.4	8.2	6.3
More than 5 to 45.....	89.4	16.1	19.2	31.9	28.4	12.7	8.8
More than 45.....	88.7	27.6	32.9	41.2	36.6	18.5	7.2
Other							
All teachers	88.0	42.4	32.6	46.3	37.2	18.0	8.4
Minority students (percent)							
0–5	88.9	41.3	32.1	45.8	35.9	17.8	8.2
More than 5 to 45.....	88.3	40.9	30.2	45.0	35.2	16.7	8.5
More than 45.....	86.4	46.6	38.0	49.8	42.4	20.5	8.7

^aData are for classes using computers in previous 2 weeks.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1999–2000.

Appendix table 1-19

High school graduates enrolled in college the October after completing high school, by sex, race/ethnicity, and family income: 1973–2001

Year	Sex		Race/ethnicity			Family income ^a		
	Male	Female	White	Black	Hispanic	Low	Middle	High
1973	50	43	48	32	54	20	41	64
1974	49	46	47	47	47	NA	NA	NA
1975	53	49	51	42	58	31	46	64
1976	47	50	49	44	53	39	41	63
1977	52	49	51	49	51	28	44	66
1978	51	49	51	46	42	31	44	64
1979	50	48	50	47	45	31	43	63
1980	47	52	50	43	52	33	42	65
1981	55	53	55	43	52	34	49	68
1982	49	52	53	36	43	33	42	71
1983	52	53	55	38	54	35	45	70
1984	56	54	59	40	44	34	48	74
1985	59	57	60	42	51	40	51	75
1986	56	52	57	37	44	34	48	71
1987	58	55	59	52	34	37	50	74
1988	57	61	61	44	57	43	55	73
1989	58	62	61	53	55	48	55	71
1990	58	62	63	47	43	47	54	77
1991	58	67	65	46	57	39	58	78
1992	60	64	64	48	55	41	57	79
1993	59	64	63	56	62	50	57	79
1994	61	63	65	51	49	41	58	78
1995	63	61	64	51	54	34	56	83
1996	60	70	67	56	51	49	63	78
1997	64	70	68	59	66	57	61	82
1998	62	69	69	62	47	46	65	77
1999	61	64	66	59	42	49	60	76
2000	60	66	66	55	53	50	59	77
2001	60	64	64	55	52	44	57	80

NA not available.

^aLow income is bottom 20 percent of all family incomes, high income is top 20 percent, and middle income is 60 percent in between.

NOTE: Data are for students ages 16–24 completing high school in a given year.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *The Condition of Education 2003*, NCES 2003-067, Indicator 18 (Washington, DC: U.S. Department of Education, 2003).

Appendix table 2-1

Institutions awarding S&E degrees, by field, degree level, and institution type: 2000

Degree level and institution type	Institutions	S&E field					Engineering technologies ^a
		All S&E ^a	Natural/ agricultural sciences ^b	Mathematics/ computer sciences	Social/ behavioral sciences	Engineering	
Bachelor's.....	1,876	1,495	1,327	1,303	1,382	422	346
Research I.....	88	87	87	87	86	80	20
Research II.....	38	38	38	38	38	35	13
Doctorate-granting I.....	49	48	46	45	48	25	19
Doctorate-granting II.....	60	59	59	57	57	41	19
Master's I.....	437	433	417	418	432	136	140
Master's II.....	92	92	89	85	91	13	17
Liberal arts I.....	163	158	154	153	158	19	0
Liberal arts II.....	455	439	395	358	407	43	56
Two year.....	109	31	11	13	16	1	28
Specialized.....	351	94	23	43	40	21	26
Other.....	18	14	8	4	9	8	2
Not classified.....	16	2	0	2	0	0	6
Master's.....	1,402	806	487	450	671	273	80
Research I.....	87	87	87	85	86	81	9
Research II.....	38	38	38	38	38	34	5
Doctorate-granting I.....	50	50	46	45	48	20	8
Doctorate-granting II.....	60	59	54	49	55	35	7
Master's I.....	438	348	197	191	302	77	44
Master's II.....	92	34	8	7	21	3	2
Liberal arts I.....	66	25	11	6	17	3	0
Liberal arts II.....	210	57	6	6	50	3	2
Two year.....	3	0	0	0	0	0	0
Specialized.....	322	78	37	23	24	17	3
Other.....	33	28	3	0	28	0	0
Not classified.....	3	2	0	0	2	0	0
Doctoral.....	404	338	280	182	262	191	0
Research I.....	89	89	89	83	87	83	0
Research II.....	38	38	38	37	38	33	0
Doctorate-granting I.....	50	49	42	28	46	22	0
Doctorate-granting II.....	59	54	48	25	42	33	0
Master's I.....	76	43	20	3	24	11	0
Master's II.....	2	1	1	0	0	0	0
Liberal arts I.....	9	6	1	0	6	1	0
Specialized.....	63	44	38	3	8	5	0
Other.....	17	13	2	3	11	3	0
Not classified.....	1	1	1	0	0	0	0

^aEngineering technologies data not included in S&E total.

^bNatural sciences include physical, biological, earth, atmospheric, and ocean sciences.

NOTE: For detailed fields of study, see National Science Foundation, Division of Science Resources Statistics (NSF/SRS), *Science and Engineering Degrees*, <http://www.nsf.gov/sbe/srs/nsf01325/htmstart.htm>.

SOURCES: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, Completions Survey; and NSF/SRS, WebCASPAR database system, <http://caspar.nsf.gov>.

Appendix table 2-2
Enrollment in higher education, by Carnegie institution type: 1967–2000

Year	All institutions	Research		Doctorate-granting		Comprehensive		Liberal arts		Two year	Specialized	Other	Not classified
		I	II	I	II	I	II	I	II				
1967	6,962,403	1,510,037	494,527	437,195	354,542	1,661,186	109,412	203,663	411,819	1,426,223	179,868	26,108	147,823
1968	7,570,446	1,564,981	517,844	455,455	389,249	1,813,749	119,881	209,398	431,621	1,709,796	187,241	27,560	143,671
1969	8,065,047	1,644,645	538,934	483,378	410,395	1,935,316	127,467	215,618	443,108	1,912,663	196,151	29,914	127,458
1970	8,648,124	1,748,776	570,365	509,450	436,660	2,071,472	137,127	221,996	452,087	2,180,252	209,720	32,862	77,357
1971	9,023,721	1,717,735	577,538	519,572	457,251	2,160,655	143,124	228,947	464,590	2,435,108	219,397	35,281	64,523
1972	9,296,311	1,768,282	581,139	521,856	466,371	2,183,621	142,270	233,939	464,218	2,609,721	229,979	31,451	63,464
1973	9,692,665	1,771,632	592,051	526,349	479,905	2,249,865	141,812	236,910	477,097	2,872,230	250,854	36,007	57,953
1974	10,319,864	1,826,768	612,510	545,772	497,963	2,324,124	153,182	238,868	494,426	3,272,215	271,195	34,553	48,288
1975	11,289,129	1,921,415	642,703	560,827	532,135	2,464,953	163,672	240,097	541,017	3,837,843	304,449	35,149	44,869
1976	11,120,093	1,893,269	613,142	568,570	526,247	2,415,834	168,445	240,730	551,890	3,755,311	307,803	33,066	45,786
1977	11,417,253	1,877,142	619,941	579,896	543,360	2,474,300	174,612	243,738	573,678	3,926,266	322,106	35,077	47,137
1978	11,391,377	1,864,590	626,213	581,343	542,558	2,452,812	178,964	251,607	579,494	3,910,980	334,175	34,665	33,976
1979	11,705,797	1,903,347	639,287	594,589	547,418	2,462,361	183,554	251,231	603,830	4,103,418	349,860	34,984	31,918
1980	12,234,644	1,947,444	655,874	604,769	570,666	2,531,409	188,971	260,645	633,712	4,404,276	371,317	35,861	29,700
1981	12,517,753	1,961,015	659,114	610,640	578,653	2,564,542	197,462	257,592	644,924	4,598,599	382,781	37,109	25,322
1982	12,588,520	1,933,340	650,946	606,683	582,638	2,570,690	200,403	252,029	651,192	4,671,136	398,143	37,800	33,520
1983	12,633,930	1,957,038	648,369	612,818	589,126	2,592,710	205,689	254,700	668,374	4,640,343	408,894	39,412	16,457
1984	12,400,392	1,952,748	644,056	604,742	591,400	2,576,072	203,725	253,604	656,099	4,456,709	410,816	38,571	11,850
1985	12,411,945	1,959,685	641,723	603,961	589,103	2,589,406	208,603	254,972	656,146	4,452,391	406,846	38,467	10,642
1986	12,670,121	1,988,839	653,298	609,772	590,694	2,629,336	210,267	257,998	657,695	4,600,773	409,815	39,097	22,537
1987	12,925,116	2,013,832	664,997	619,854	601,073	2,675,959	219,167	262,649	665,726	4,739,689	404,679	41,729	15,762
1988	13,201,196	2,029,004	685,709	631,050	608,610	2,738,209	227,912	269,134	693,026	4,843,313	422,564	39,942	12,723
1989	13,621,203	2,046,868	704,842	644,062	623,988	2,831,502	238,431	266,907	716,902	5,072,690	420,495	40,260	14,256
1990	13,983,255	2,080,412	714,852	657,824	635,833	2,926,402	243,690	268,223	732,654	5,220,767	442,899	42,149	17,550
1991	14,527,724	2,094,841	720,127	660,908	643,519	2,962,524	255,272	268,960	758,023	5,624,420	459,146	44,370	35,614
1992	14,657,118	2,089,045	714,126	655,985	649,549	2,964,105	259,253	266,735	781,247	5,695,378	483,070	46,705	51,920
1993	14,477,792	2,078,622	701,058	648,068	644,533	2,944,113	261,163	264,222	791,140	5,545,475	494,944	48,122	56,332
1994	14,449,476	2,079,559	694,454	639,831	650,816	2,927,198	266,854	264,737	797,156	5,499,655	502,771	49,764	76,681
1995	14,445,438	2,080,163	691,292	638,157	659,197	2,925,255	265,523	267,327	810,206	5,471,342	503,929	49,261	83,786
1996	14,481,915	2,082,713	684,608	632,288	661,015	2,926,182	267,133	269,258	814,037	5,494,333	515,296	50,151	84,901
1997	14,521,994	2,089,243	692,798	633,836	665,881	2,927,240	272,653	272,071	822,304	5,487,309	524,508	48,902	85,249
1998	14,835,140	2,109,348	701,177	636,460	673,467	2,960,640	276,662	275,722	839,075	5,679,793	543,075	46,968	92,753
2000	15,592,671	2,144,926	714,249	650,496	689,922	3,061,764	288,870	282,285	870,362	6,170,926	566,643	47,333	104,895

SOURCES: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, Fall Enrollment Survey, various years; and National Science Foundation, Division of Science Resources Statistics, WebCASPAR database system, <http://caspar.nsf.gov>.

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Appendix table 2-3
S&E degrees awarded by degree level, institution type, and field: 2000

Degree level and institution type	All fields	All S&E ^a	S&E field				
			Natural/ agricultural sciences ^b	Mathematics/ computer sciences	Social/ behavioral sciences	Engineering	Engineering technologies ^a
Bachelor's.....	1,253,121	398,622	101,775	49,123	188,188	59,536	15,238
Research I.....	297,126	132,007	34,387	10,785	57,657	29,178	1,714
Research II.....	98,995	34,907	9,097	2,732	15,548	7,530	1,069
Doctorate-granting I.....	80,768	22,656	4,930	3,041	11,246	3,439	938
Doctorate-granting II.....	84,006	29,135	6,695	3,902	12,339	6,199	827
Master's I.....	401,018	103,705	26,601	15,264	53,117	8,723	5,457
Master's II.....	39,255	9,022	2,360	1,724	4,593	345	594
Liberal arts I.....	56,514	27,810	8,789	2,187	16,358	476	0
Liberal arts II.....	130,987	29,959	7,673	6,191	15,224	871	1,626
Two year.....	7,426	660	161	301	188	10	1,060
Specialized.....	50,277	5,653	760	2,593	443	1,857	1,604
Other.....	5,369	2,880	322	175	1,475	908	33
Not classified.....	1,380	228	0	228	0	0	316
Master's.....	456,260	95,683	15,040	17,824	37,083	25,736	1,350
Research I.....	125,742	38,074	7,208	5,627	10,645	14,594	336
Research II.....	33,731	10,367	1,819	1,595	3,637	3,316	45
Doctorate-granting I.....	43,462	9,518	1,090	2,604	3,823	2,001	169
Doctorate-granting II.....	35,435	8,889	1,442	2,163	2,912	2,372	99
Master's I.....	156,214	21,925	2,702	4,560	11,815	2,848	544
Master's II.....	10,498	685	45	140	463	37	46
Liberal arts I.....	5,443	785	122	59	566	38	0
Liberal arts II.....	11,862	1,083	65	139	859	20	63
Two year.....	38	0	0	0	0	0	0
Specialized.....	30,678	2,345	511	937	387	510	48
Other.....	2,940	1,823	36	0	1,787	0	0
Not classified.....	217	189	0	0	189	0	0
Doctoral.....	44,818	25,389	10,003	1,856	8,146	5,384	16
Research I.....	27,497	16,948	7,188	1,335	4,294	4,131	6
Research II.....	4,925	2,811	1,152	222	847	590	7
Doctorate-granting I.....	4,754	1,982	462	197	1,063	260	0
Doctorate-granting II.....	2,378	1,317	463	91	463	300	0
Master's I.....	1,197	337	60	4	207	66	2
Master's II.....	17	10	1	0	9	0	0
Liberal arts I.....	222	81	12	0	69	0	0
Liberal arts II.....	93	16	0	0	16	0	0
Specialized.....	2,336	782	665	7	73	37	1
Other.....	1,291	1,003	0	0	1,003	0	0
Not classified.....	108	102	0	0	102	0	0

^aEngineering technologies data not included in S&E total.

^bNatural sciences include physical, biological, earth, atmospheric, and ocean sciences.

NOTE: For detailed fields, see National Science Foundation, Division of Science Resources Statistics (NSF/SRS), *Science and Engineering Degrees*, <http://www.nsf.gov/sbe/srs/nsf01325/htmstart.htm>.

SOURCES: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, Completions Survey; and NSF/SRS, WebCASPAR database system, <http://caspar.nsf.gov>.

Appendix table 2-4
U.S. population of 20–24-year-olds, by sex and race/ethnicity: Selected years, 1985–2020

Sex	All races/ethnicities		White		Asian/Pacific Islander		Black		Hispanic		American Indian/ Alaskan Native	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Both sexes												
1985	20,694,001	100.0	15,393,698	74.4	456,493	2.2	2,642,882	12.8	2,042,290	9.9	158,638	0.8
1990	18,613,683	100.0	13,142,195	70.6	603,986	3.2	2,423,770	13.0	2,295,364	12.3	148,368	0.8
1995	17,664,652	100.0	11,979,033	67.8	714,402	4.0	2,457,636	13.9	2,356,723	13.3	156,858	0.9
2000	18,516,000	100.0	12,167,000	65.7	744,000	4.0	2,638,000	14.2	2,801,000	15.1	166,000	0.9
2005	20,159,000	100.0	13,022,000	64.6	894,000	4.4	2,827,000	14.0	3,224,000	16.0	192,000	1.0
2010	21,152,000	100.0	13,253,000	62.7	995,000	4.7	3,099,000	14.7	3,599,000	17.0	206,000	1.0
2015	21,747,000	100.0	12,973,000	59.7	1,205,000	5.5	3,127,000	14.4	4,251,000	19.5	191,000	0.9
2020	21,020,000	100.0	12,130,000	57.7	1,322,000	6.3	2,855,000	13.6	4,528,000	21.5	185,000	0.9
Male												
1985	10,183,871	100.0	7,555,833	74.2	232,410	2.3	1,232,681	12.1	1,083,161	10.6	79,786	0.8
1990	9,277,563	100.0	6,505,454	70.1	308,080	3.3	1,142,368	12.3	1,246,935	13.4	74,726	0.8
1995	8,825,001	100.0	5,973,789	67.7	355,023	4.0	1,186,814	13.4	1,230,194	13.9	79,181	0.9
2000	9,432,000	100.0	6,226,000	66.0	366,000	3.9	1,304,000	13.8	1,454,000	15.4	83,000	0.9
2005	10,268,000	100.0	6,661,000	64.9	439,000	4.3	1,403,000	13.7	1,670,000	16.3	95,000	0.9
2010	10,777,000	100.0	6,776,000	62.9	495,000	4.6	1,543,000	14.3	1,860,000	17.3	103,000	1.0
2015	11,077,000	100.0	6,628,000	59.8	602,000	5.4	1,559,000	14.1	2,193,000	19.8	95,000	0.9
2020	10,698,000	100.0	6,191,000	57.9	658,000	6.2	1,425,000	13.3	2,332,000	21.8	92,000	0.9
Female												
1985	10,510,130	100.0	7,837,865	74.6	224,083	2.1	1,410,201	13.4	959,129	9.1	78,852	0.8
1990	9,336,120	100.0	6,636,741	71.1	295,906	3.2	1,281,402	13.7	1,048,429	11.2	73,642	0.8
1995	8,839,651	100.0	6,005,244	67.9	359,379	4.1	1,270,822	14.4	1,126,529	12.7	77,677	0.9
2000	9,084,000	100.0	5,942,000	65.4	379,000	4.2	1,334,000	14.7	1,347,000	14.8	83,000	0.9
2005	9,889,000	100.0	6,360,000	64.3	454,000	4.6	1,424,000	14.4	1,554,000	15.7	97,000	1.0
2010	10,375,000	100.0	6,477,000	62.4	500,000	4.8	1,556,000	15.0	1,739,000	16.8	103,000	1.0
2015	10,670,000	100.0	6,345,000	59.5	603,000	5.7	1,568,000	14.7	2,058,000	19.3	96,000	0.9
2020	10,321,000	100.0	5,938,000	57.5	664,000	6.4	1,430,000	13.9	2,196,000	21.3	93,000	0.9

SOURCES: U.S. Bureau of the Census, Population Division, 1990 Census, <http://www.census.gov/population/estimates/nation>; and U.S. Bureau of the Census, Population Projections Program, *Projections of the Resident Population by Age, Sex, Race, and Hispanic Origin: 1999 to 2100* (Washington, DC, 2000), http://www.census.gov/population/projections/nation/detail/d2001_10.pdf.

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