

REFERENCE

3

Teachers
and Instruction



	Percentage of Students Whose Teachers Report Feeling Very Well Prepared to Teach Topic ¹					
	Earth science – earth's features and physical processes	Earth science – the solar system and the universe	Biology – structure and function of human systems	Biology – diversity, structure, and processes of plant and animal life	Chemistry – classification and structure of matter	Chemistry – chemical reactivity and transformation
Countries						
United States	r 61 (3.0)	r 56 (3.4)	r 65 (2.5)	r 62 (3.0)	r 58 (3.4)	r 42 (4.1)
Belgium (Flemish)	r 64 (4.5)	r 30 (4.9)	r 79 (2.9)	r 65 (3.9)	s 58 (5.7)	s 37 (5.9)
Canada	r 41 (3.4)	r 30 (3.6)	r 59 (3.4)	r 60 (3.0)	s 48 (3.7)	s 36 (3.9)
Chinese Taipei	17 (3.9)	16 (3.6)	10 (3.6)	12 (4.0)	64 (4.3)	66 (4.4)
Czech Republic	70 (3.4)	68 (3.6)	77 (3.1)	74 (3.8)	69 (3.7)	68 (3.5)
England	--	--	--	--	--	--
Hong Kong, SAR	8 (2.7)	9 (2.6)	44 (4.2)	38 (4.5)	35 (4.8)	36 (4.1)
Italy	29 (3.6)	33 (3.8)	67 (3.6)	63 (3.7)	49 (3.6)	36 (4.0)
Japan	12 (2.8)	11 (2.8)	19 (3.5)	16 (3.1)	25 (3.5)	31 (3.6)
Korea, Rep. of	26 (3.7)	22 (3.3)	42 (3.6)	34 (3.7)	40 (4.0)	45 (3.6)
Netherlands	r 54 (4.1)	r 43 (4.5)	r 59 (3.8)	r 56 (3.9)	r 41 (4.2)	r 35 (3.9)
Russian Federation	--	--	--	--	--	--
Singapore	13 (3.3)	11 (3.2)	56 (4.6)	52 (4.6)	63 (3.5)	57 (4.1)
States						
Connecticut	s 70 (7.1)	s 48 (9.7)	s 64 (7.5)	s 55 (7.4)	s 75 (6.1)	s 55 (9.1)
Idaho	r 51 (5.8)	r 49 (8.0)	r 59 (7.4)	r 57 (7.3)	r 51 (4.1)	r 35 (6.7)
Illinois	53 (6.2)	44 (6.9)	73 (5.9)	71 (6.1)	58 (5.4)	51 (5.3)
Indiana	61 (6.3)	61 (8.9)	73 (6.1)	65 (7.4)	70 (6.9)	54 (7.6)
Maryland	r 61 (5.7)	r 55 (5.8)	r 67 (5.1)	r 67 (5.5)	r 67 (5.8)	r 48 (5.9)
Massachusetts	64 (6.4)	54 (5.9)	68 (6.4)	65 (6.5)	69 (5.8)	47 (6.6)
Michigan	r 58 (7.3)	r 45 (6.8)	r 72 (6.7)	r 68 (6.1)	r 63 (6.8)	r 44 (8.8)
Missouri	71 (5.8)	64 (6.9)	76 (4.8)	66 (6.3)	50 (5.5)	27 (5.6)
North Carolina	60 (5.0)	47 (5.5)	r 55 (6.2)	51 (5.6)	55 (5.9)	43 (5.6)
Oregon	83 (4.6)	70 (5.2)	66 (7.1)	71 (7.0)	52 (6.3)	38 (7.2)
<i>Pennsylvania</i>	54 (5.3)	49 (5.3)	52 (8.8)	52 (5.0)	52 (6.2)	38 (6.6)
South Carolina	72 (6.3)	76 (5.5)	65 (6.0)	61 (6.9)	49 (6.6)	31 (6.4)
<i>Texas</i>	r 85 (4.8)	r 72 (5.2)	r 70 (6.6)	r 64 (6.6)	r 48 (7.0)	r 35 (6.7)
Districts and Consortia						
Academy School Dist. #20, CO	56 (0.5)	66 (0.5)	80 (0.3)	80 (0.3)	68 (0.4)	60 (0.4)
Chicago Public Schools, IL	50 (8.8)	50 (12.8)	60 (9.8)	r 58 (9.8)	49 (9.4)	41 (9.3)
Delaware Science Coalition, DE	r 63 (5.0)	r 60 (4.9)	r 53 (4.6)	r 47 (6.8)	r 57 (5.7)	r 33 (7.1)
First in the World Consort., IL	45 (7.5)	27 (5.1)	94 (4.3)	85 (7.2)	81 (3.3)	62 (8.0)
Fremont/Lincoln/WestSide PS, NE	50(10.3)	63 (8.3)	77 (3.1)	83 (4.0)	55 (3.6)	47 (4.6)
Guilford County, NC	61 (7.2)	41 (5.2)	50 (5.3)	55 (5.8)	61 (5.7)	47 (7.1)
Jersey City Public Schools, NJ	r 58 (2.9)	r 49 (3.0)	r 61 (3.1)	r 64 (2.9)	r 43 (2.8)	r 17 (3.4)
Miami-Dade County PS, FL	s 54(10.3)	s 46 (8.9)	s 68 (8.8)	s 57 (8.3)	s 62 (7.4)	s 50 (8.5)
Michigan Invitational Group, MI	77 (5.1)	61 (6.2)	57 (7.7)	62 (7.0)	65 (2.9)	58 (3.6)
Montgomery County, MD	x x	x x	x x	x x	x x	x x
Naperville Sch. Dist. #203, IL	41 (2.5)	24 (3.0)	67 (3.9)	65 (2.8)	82 (1.7)	48 (4.8)
Project SMART Consortium, OH	79 (3.7)	64 (4.5)	60 (4.1)	60 (2.7)	73 (4.5)	52 (4.7)
Rochester City Sch. Dist., NY	r 25 (7.5)	r 23 (5.7)	85 (4.4)	78 (4.8)	59 (5.7)	26 (5.7)
SW Math/Sci. Collaborative, PA	73 (6.6)	61 (8.9)	51 (6.7)	56 (6.0)	63 (8.3)	46 (7.4)
International Avg. (All Countries)	36 (0.6)	32 (0.6)	60 (0.6)	55 (0.6)	51 (0.7)	46 (0.7)

SOURCE: IEA Third International Mathematics and Science Study (TIMSS), 1998-1999.

Background data provided by teachers.

¹ Does not include students whose teachers report that they do not teach the topic.

² Percentage of students averaged across topics.

States in *italics* did not fully satisfy guidelines for sample participation rates (see Appendix A for details).

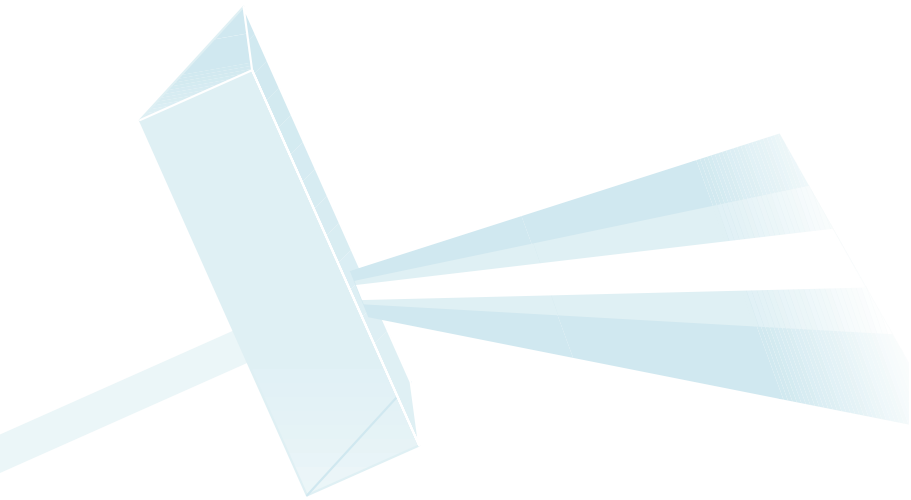
() Standard errors appear in parentheses. Because results are rounded to the nearest whole number, some totals may appear inconsistent.

A dash (-) indicates data are not available.

An "r" indicates teacher response data available for 70-84% of students. An "s" indicates teacher response data available for 50-69% of students. An "x" indicates teacher response data available for <50% of students.

	Percentage of Students Whose Teachers Report Feeling Very Well Prepared to Teach Topic ¹				
	Physics – types of energy, sources of energy, conversion between energy types	Physics – light	Environmental and resources issues	Scientific methods and inquiry skills	Average ²
Countries					
United States	r 55 (4.2)	r 40 (3.6)	r 56 (3.8)	86 (2.2)	58 (1.5)
Belgium (Flemish)	r 33 (4.1)	r 63 (5.6)	28 (2.6)	30 (3.2)	47 (2.1)
Canada	r 48 (3.8)	s 34 (3.4)	r 45 (3.7)	58 (3.0)	44 (1.7)
Chinese Taipei	70 (3.8)	58 (4.1)	20 (3.6)	21 (3.6)	42 (2.6)
Czech Republic	64 (3.2)	r 60 (3.7)	66 (2.8)	12 (2.0)	64 (2.0)
England	– –	– –	– –	– –	– –
Hong Kong, SAR	47 (4.7)	33 (4.5)	30 (4.1)	36 (4.3)	34 (2.4)
Italy	40 (3.5)	31 (3.5)	48 (4.3)	32 (3.8)	42 (2.1)
Japan	17 (2.9)	11 (3.0)	17 (3.4)	11 (3.0)	17 (1.7)
Korea, Rep. of	35 (3.6)	17 (3.1)	22 (3.3)	21 (3.0)	31 (1.9)
Netherlands	r 54 (3.0)	r 57 (3.5)	49 (3.6)	41 (4.5)	50 (1.7)
Russian Federation	– –	– –	– –	– –	– –
Singapore	58 (4.0)	57 (3.9)	30 (4.0)	35 (4.5)	46 (2.4)
States					
Connecticut	s 63 (7.6)	s 50 (7.0)	s 60 (8.2)	89 (4.0)	64 (3.6)
Idaho	r 60 (7.3)	r 41 (8.7)	r 44 (5.5)	66 (4.6)	53 (3.8)
Illinois	46 (7.0)	39 (7.3)	58 (6.5)	84 (2.6)	58 (2.6)
Indiana	58 (8.0)	52 (7.8)	50 (6.5)	90 (3.3)	65 (3.0)
Maryland	r 53 (5.2)	r 51 (5.9)	r 60 (7.1)	87 (3.4)	62 (3.4)
Massachusetts	55 (6.8)	43 (5.8)	60 (4.7)	91 (2.5)	61 (2.1)
Michigan	62 (6.1)	50 (5.5)	47 (6.3)	74 (5.7)	58 (3.0)
Missouri	41 (5.9)	33 (6.1)	60 (7.3)	81 (5.6)	57 (2.6)
North Carolina	47 (7.9)	38 (6.0)	67 (6.5)	76 (5.6)	53 (4.0)
Oregon	51 (6.5)	35 (6.5)	65 (7.0)	85 (4.5)	62 (3.3)
Pennsylvania	37 (5.2)	32 (5.2)	53 (5.8)	79 (6.8)	52 (3.4)
South Carolina	36 (6.6)	36 (7.2)	61 (6.0)	86 (4.9)	57 (3.3)
Texas	r 47 (7.8)	r 24 (4.8)	r 60 (5.5)	88 (4.8)	60 (3.5)
Districts and Consortia					
Academy School Dist. #20, CO	82 (0.4)	37 (0.4)	63 (0.5)	75 (0.3)	69 (0.1)
Chicago Public Schools, IL	48 (12.8)	26 (8.0)	33 (10.8)	74 (11.6)	49 (6.3)
Delaware Science Coalition, DE	r 28 (5.2)	r 26 (5.1)	r 50 (8.6)	69 (5.5)	49 (2.9)
First in the World Consort., IL	58 (8.8)	50 (6.7)	72 (5.7)	83 (7.5)	69 (3.7)
Fremont/Lincoln/WestSide PS, NE	51 (6.4)	40 (9.3)	41 (6.3)	88 (2.6)	59 (2.5)
Guilford County, NC	51 (5.8)	31 (4.4)	67 (4.9)	75 (5.1)	54 (3.3)
Jersey City Public Schools, NJ	r 39 (2.8)	r 32 (2.9)	r 51 (2.6)	68 (2.5)	46 (2.6)
Miami-Dade County PS, FL	s 63 (8.4)	s 52 (7.8)	s 69 (8.7)	82 (5.8)	60 (4.4)
Michigan Invitational Group, MI	58 (4.1)	31 (3.9)	47 (6.5)	83 (4.8)	62 (3.4)
Montgomery County, MD	x x	x x	x x	x x	x x
Naperville Sch. Dist. #203, IL	93 (1.6)	63 (4.2)	46 (3.7)	98 (0.3)	64 (1.6)
Project SMART Consortium, OH	72 (3.7)	60 (5.7)	50 (5.6)	84 (4.2)	67 (2.1)
Rochester City Sch. Dist., NY	62 (4.9)	32 (6.1)	56 (5.9)	78 (3.9)	57 (4.1)
SW Math/Sci. Collaborative, PA	54 (7.5)	25 (7.2)	52 (5.9)	84 (5.6)	56 (3.4)
International Avg. (All Countries)	50 (0.6)	45 (0.6)	39 (0.6)	34 (0.6)	46 (0.4)

SOURCE: IEA Third International Mathematics and Science Study (TIMSS), 1998-1999.



Percentage of Students Whose Schools Report That Shortages Affect Instructional Capacity Some or A Lot

Participants with General/ Integrated Science		Countries with Separate Science Subjects				
		Earth Science	Biology	Physics	Chemistry	
Countries		Belgium (Flemish)	4 (1.5)	7 (3.3)	4 (1.6)	--
United States	r 16 (2.5)	Czech Republic	12 (3.8)	9 (3.1)	9 (2.7)	6 (2.6)
Canada	19 (2.1)	Netherlands	r 5 (1.6)	r 12 (5.8)	r 24 (6.5)	r 22 (6.6)
Chinese Taipei ^a	21 (3.4)	Russian Federation	42 (3.5)	40 (3.6)	39 (3.7)	40 (4.0)
England	r 5 (2.1)	International Avg. (All Separate Science Countries)	25 (0.9)	26 (0.9)	28 (0.9)	27 (1.0)
Hong Kong, SAR	13 (2.7)					
Italy	26 (3.6)					
Japan	17 (3.3)					
Korea, Rep. of	32 (3.9)					
Singapore	17 (3.2)					
States						
Connecticut	s 10 (5.0)					
Idaho	r 4 (2.3)					
Illinois	9 (3.8)					
Indiana	10 (6.7)					
Maryland	r 23 (5.8)					
Massachusetts	s 5 (4.1)					
Michigan	10 (4.6)					
Missouri	15 (5.8)					
North Carolina	r 24 (6.8)					
Oregon	8 (4.2)					
<i>Pennsylvania</i>	5 (2.9)					
South Carolina	22 (6.7)					
<i>Texas</i>	r 27 (9.3)					
Districts and Consortia						
Academy School Dist. #20, CO	0 (0.0)					
Chicago Public Schools, IL	s 26 (10.2)					
Delaware Science Coalition, DE	r 20 (2.3)					
First in the World Consort., IL	r 0 (0.0)					
Fremont/Lincoln/WestSide PS, NE	r 0 (0.0)					
Guilford County, NC	r 32 (1.0)					
Jersey City Public Schools, NJ	29 (1.8)					
Miami-Dade County PS, FL	x x					
Michigan Invitational Group, MI	40 (1.6)					
Montgomery County, MD	s 19 (10.8)					
Naperville Sch. Dist. #203, IL	0 (0.0)					
Project SMART Consortium, OH	19 (0.8)					
Rochester City Sch. Dist., NY	r 19 (1.3)					
SW Math/Sci. Collaborative, PA	4 (3.1)					
International Avg. (All General Science Countries)		35 (0.7)				

SOURCE: IEA Third International Mathematics and Science Study (TIMSS), 1998-1999.

Background data provided by schools.

* Countries are classified as having either general/integrated science or separate subject area classes at grade 8.

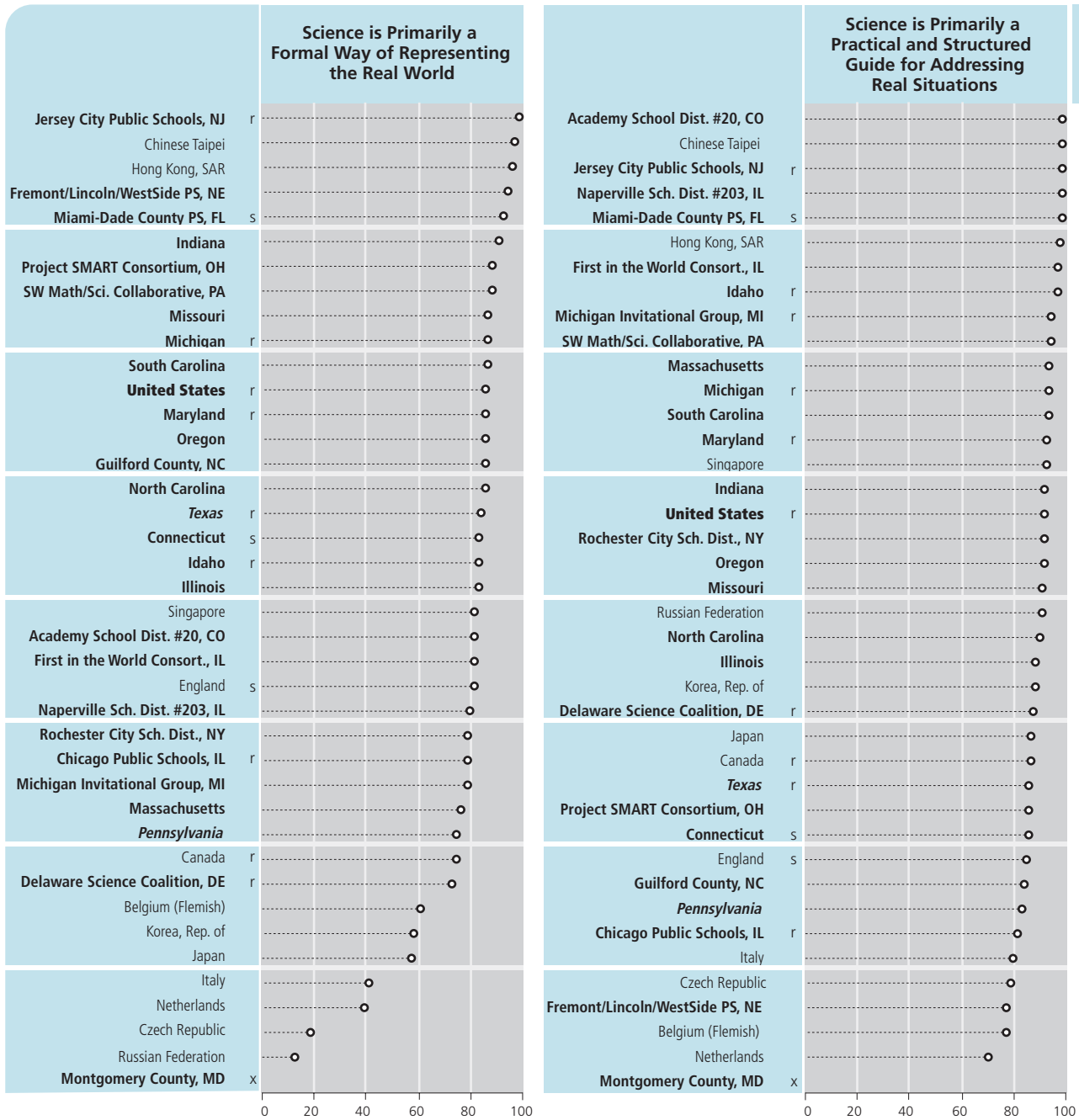
^a Chinese Taipei: Data pertain to teachers of grade 8 physics/chemistry course.

States in *italics* did not fully satisfy guidelines for sample participation rates (see Appendix A for details).

() Standard errors appear in parentheses. Because results are rounded to the nearest whole number, some totals may appear inconsistent.

A dash (–) indicates data are not available.

An "r" indicates school response data available for 70-84% of students. An "s" indicates school response data available for 50-60% of students. An "x" indicates school response data available for <50% of students.

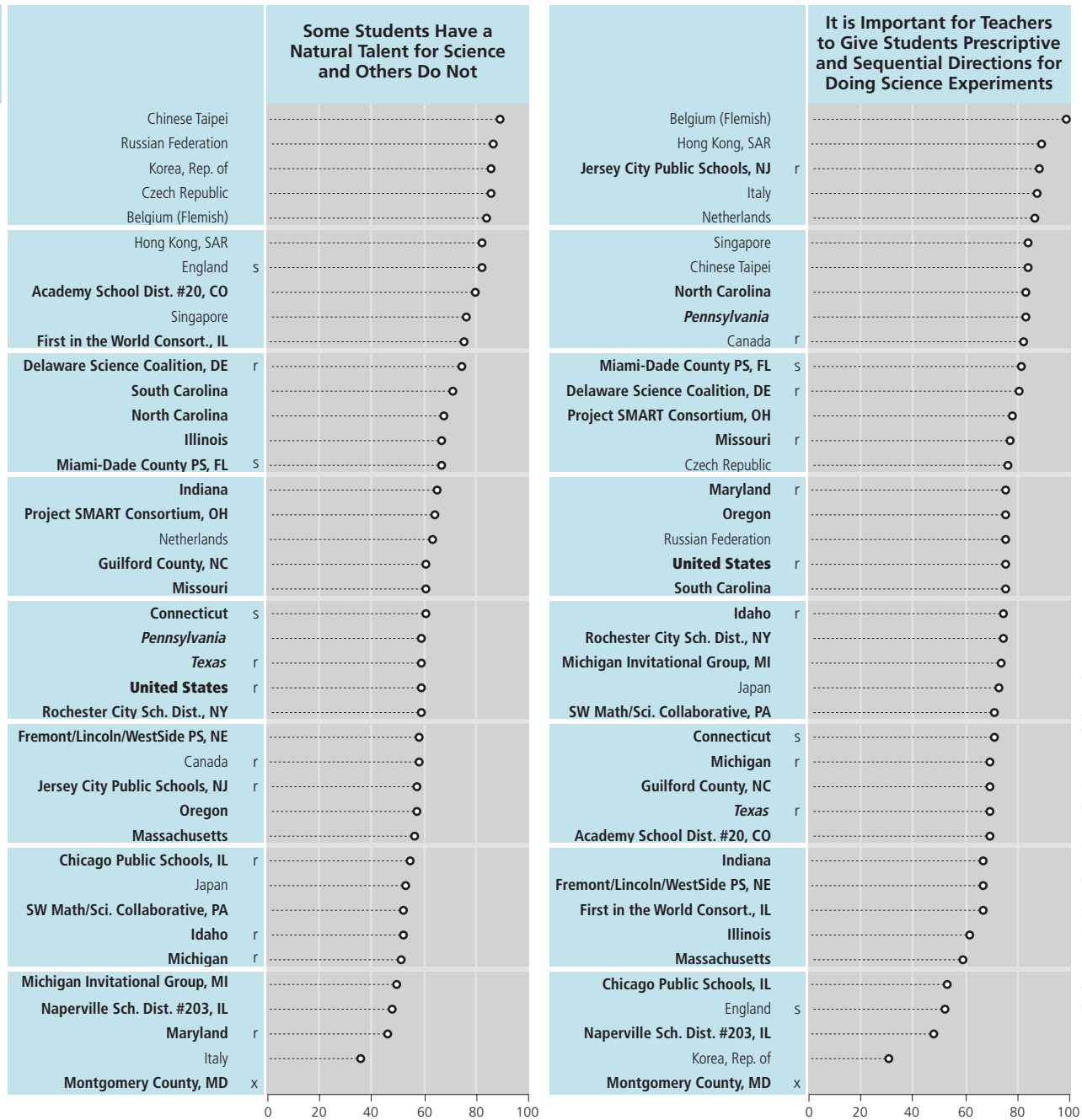


SOURCE: IEA Third International Mathematics and Science Study (TIMSS), 1998-1999.

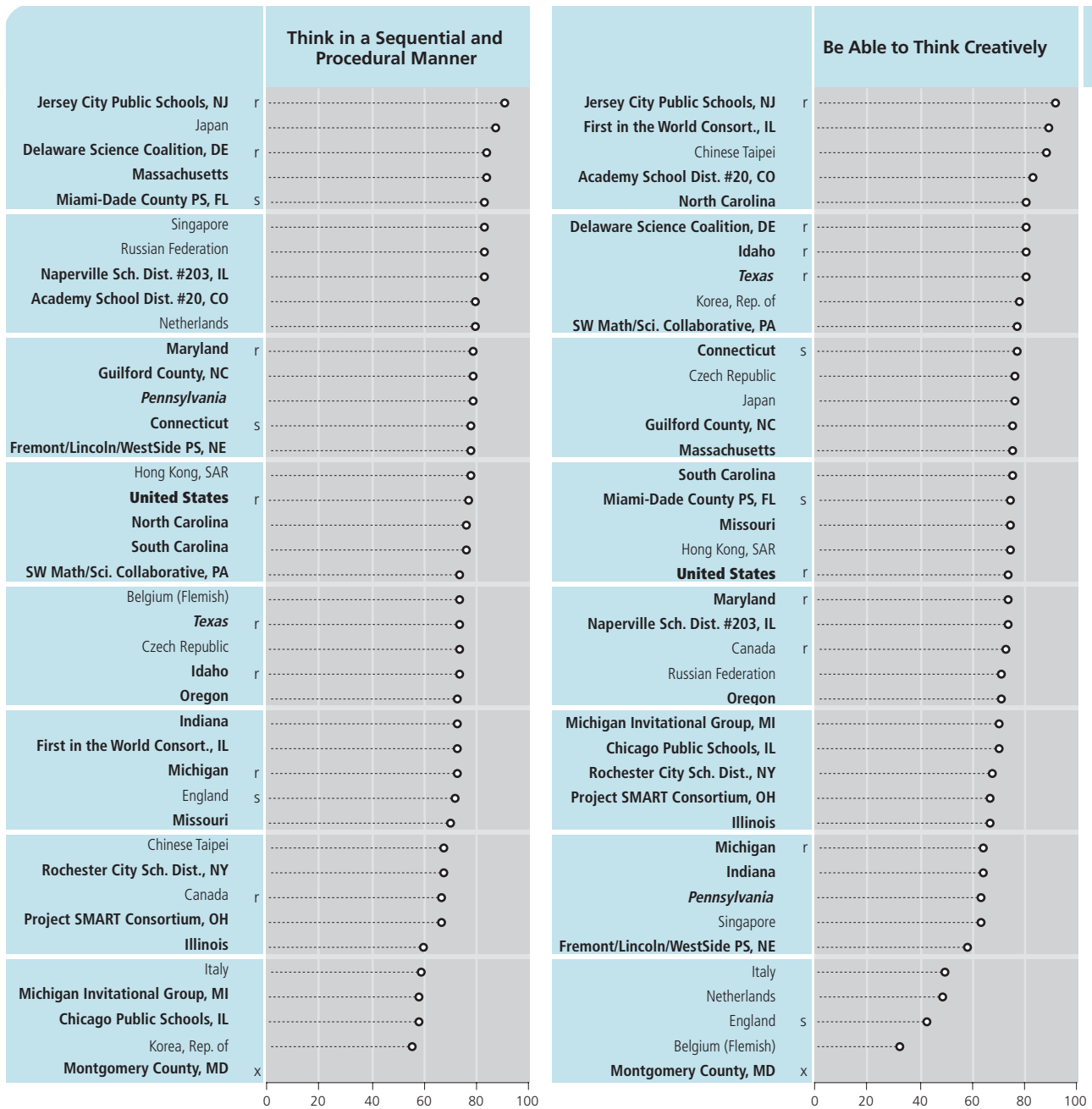
Background data provided by teachers.

States in *italics* did not fully satisfy guidelines for sample participation rates (see Appendix A for details).

An "r" indicates teacher response data available for 70-84% of students. An "s" indicates teacher response data available for 50-69% of students. An "x" indicates teacher response data available for <50% of students.



SOURCE: IEA Third International Mathematics and Science Study (TIMSS), 1998-1999.

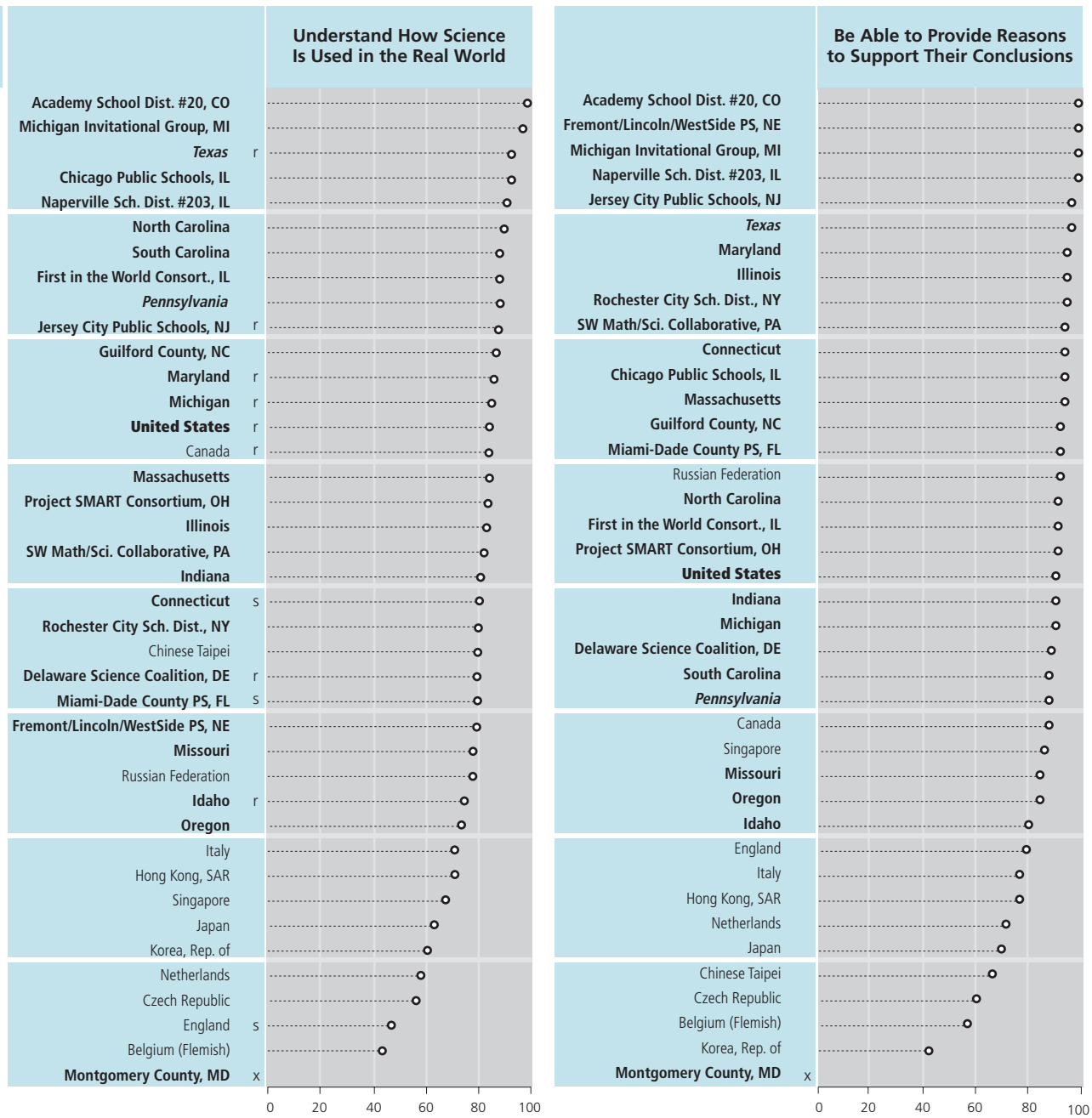


SOURCE: IEA Third International Mathematics and Science Study (TIMSS), 1998-1999.

Background data provided by teachers.

States in *italics* did not fully satisfy guidelines for sample participation rates (see Appendix A for details).

An "r" indicates teacher response data available for 70-84% of students. An "s" indicates teacher response data available for 50-69% of students. An "x" indicates teacher response data available for <50% of students.



SOURCE: IEA Third International Mathematics and Science Study (TIMSS), 1998-1999.

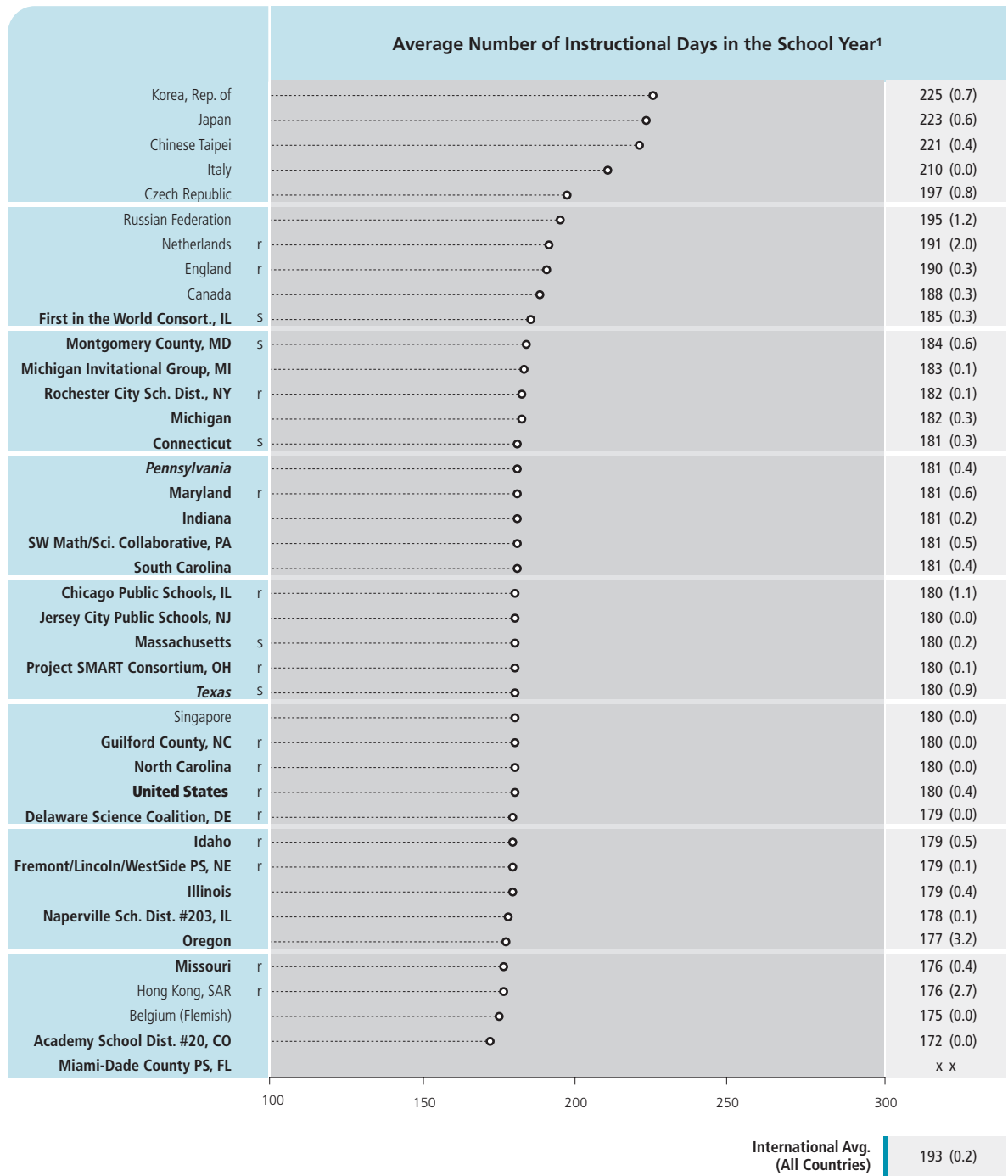
	Percentage of Formally Scheduled School Time Averaged Across Students				
	Teaching Science, Mathematics, and Other Subjects	Teaching Science ¹	Curriculum Planning ²	Administrative Duties	Other Activities ³
Countries					
United States	r 74 (1.0)	r 62 (1.7)	r 13 (0.7)	r 2 (0.3)	r 12 (0.9)
Belgium (Flemish)	86 (1.1)	64 (2.2)	3 (0.4)	1 (0.3)	10 (0.7)
Canada	79 (1.0)	41 (1.6)	8 (0.5)	1 (0.3)	12 (0.7)
Chinese Taipei	59 (2.3)	58 (2.4)	10 (1.0)	5 (1.0)	26 (1.7)
Czech Republic	68 (1.6)	41 (1.2)	13 (1.1)	3 (0.3)	16 (0.6)
England	s 89 (1.0)	s 84 (1.1)	s 1 (0.4)	s 3 (0.6)	s 8 (0.8)
Hong Kong, SAR	x x	x x	x x	x x	x x
Italy	87 (1.1)	31 (0.7)	7 (0.8)	0 (0.1)	6 (0.6)
Japan	65 (1.9)	58 (2.0)	9 (1.0)	4 (0.4)	22 (1.3)
Korea, Rep. of	48 (1.3)	47 (1.3)	15 (0.6)	13 (0.6)	24 (1.0)
Netherlands ⁴	r 87 (0.7)	r 75 (2.1)	--	--	r 13 (0.7)
Russian Federation ⁵	--	--	--	--	--
Singapore	75 (0.9)	65 (1.2)	--	3 (0.4)	22 (0.8)
States					
Connecticut	s 68 (2.5)	s 61 (3.0)	s 15 (2.4)	s 3 (0.9)	s 14 (1.7)
Idaho	r 77 (1.9)	s 67 (2.8)	r 15 (1.6)	r 2 (0.9)	r 8 (1.3)
Illinois	72 (2.0)	57 (2.1)	13 (1.2)	2 (1.3)	13 (1.8)
Indiana	r 71 (3.0)	r 59 (4.4)	r 15 (1.2)	r 1 (0.4)	r 13 (3.2)
Maryland	r 70 (2.0)	s 66 (2.2)	r 19 (1.3)	r 2 (0.5)	r 9 (1.2)
Massachusetts	73 (1.3)	r 66 (2.0)	15 (1.5)	2 (0.5)	10 (1.1)
Michigan	r 73 (2.5)	r 54 (2.4)	r 16 (2.1)	r 2 (0.7)	r 9 (1.4)
Missouri	74 (2.2)	r 65 (2.5)	13 (1.6)	1 (0.5)	12 (1.4)
North Carolina	63 (2.4)	r 50 (3.2)	20 (1.6)	2 (0.6)	15 (1.9)
Oregon	78 (1.9)	r 63 (2.6)	13 (1.3)	1 (0.4)	8 (1.1)
Pennsylvania	73 (1.8)	r 63 (5.2)	8 (0.9)	2 (0.5)	17 (1.7)
South Carolina	64 (2.3)	r 55 (3.0)	20 (1.6)	1 (0.3)	15 (1.7)
Texas	r 70 (2.5)	r 63 (3.1)	r 15 (1.7)	r 2 (0.6)	r 14 (1.8)
Districts and Consortia					
Academy School Dist. #20, CO	64 (0.1)	r 51 (0.1)	25 (0.1)	0 (0.0)	11 (0.1)
Chicago Public Schools, IL	79 (2.6)	r 52 (5.3)	r 9 (1.6)	2 (0.8)	11 (2.4)
Delaware Science Coalition, DE	r 71 (1.9)	s 55 (1.9)	r 17 (1.2)	r 0 (0.3)	r 12 (1.8)
First in the World Consort., IL	73 (0.9)	r 65 (2.5)	18 (1.0)	0 (0.2)	10 (0.9)
Fremont/Lincoln/WestSide PS, NE	70 (1.0)	67 (1.0)	22 (1.9)	r 0 (0.0)	8 (2.0)
Guilford County, NC	55 (1.9)	47 (1.9)	25 (1.6)	r 5 (1.1)	15 (1.4)
Jersey City Public Schools, NJ	r 77 (1.0)	s 66 (2.2)	r 15 (0.8)	s 1 (0.0)	r 7 (0.4)
Miami-Dade County PS, FL	s 72 (5.7)	s 59 (5.6)	s 11 (2.1)	s 2 (1.2)	s 15 (3.5)
Michigan Invitational Group, MI	78 (0.8)	62 (0.9)	10 (0.5)	0 (0.2)	12 (0.9)
Montgomery County, MD	x x	x x	x x	x x	x x
Naperville Sch. Dist. #203, IL	61 (0.8)	52 (0.9)	20 (0.8)	2 (0.2)	17 (0.4)
Project SMART Consortium, OH	71 (1.3)	r 68 (1.3)	17 (0.6)	1 (0.1)	11 (1.3)
Rochester City Sch. Dist., NY	r 66 (1.0)	r 59 (2.5)	r 20 (0.9)	r 5 (0.6)	r 10 (1.1)
SW Math/Sci. Collaborative, PA	72 (2.3)	64 (2.8)	9 (1.1)	2 (0.4)	17 (2.0)
International Avg. (All Countries)	71 (0.2)	58 (0.3)	10 (0.1)	4 (0.1)	17 (0.2)

SOURCE: IEA Third International Mathematics and Science Study (TIMSS), 1998-1999.

Background data provided by teachers.

- 1 Reflects total hours reported teaching general/integrated science, physical science, earth science, life science, biology, chemistry, and physics.
- 2 Includes individual curriculum planning and cooperative curriculum planning.
- 3 Includes student supervision (other than teaching), student counseling/appraisal, other non-student contact time, and other activities.
- 4 Netherlands: Data in other activities category reflects the total reported for curriculum planning, administrative duties, and other activities.

- 5 Russian Federation: Formally scheduled school time is for instruction only; teachers are not formally scheduled for other activities.
- States in *italics* did not fully satisfy guidelines for sample participation rates (see Appendix A for details).
- () Standard errors appear in parentheses. Because results are rounded to the nearest whole number, some totals may appear inconsistent.
- A dash (–) indicates data are not available.
- An "r" indicates teacher response data available for 70-84% of students. An "s" indicates teacher response data available for 50-69% of students. An "x" indicates teacher response data available for <50% of students.



SOURCE: IEA Third International Mathematics and Science Study (TIMSS), 1998-1999.

Background data provided by schools.

¹ Days reported averaged across students.

 States in *italics* did not fully satisfy guidelines for sample participation rates (see Appendix A for details).

() Standard errors appear in parentheses. Because results are rounded to the nearest whole number, some totals may appear inconsistent.

An "r" indicates school response data available for 70-84% of students. An "s" indicates school response data available for 50-69% of students. An "x" indicates school response data available for <50% of students.

	Percentage of Students Whose Teachers Report Most or Every Lesson				
	Explain Reasoning Behind an Idea	Represent and Analyze Relationships Using Tables, Charts, or Graphs	Work on Problems for Which There Is No Immediately Obvious Method of Solution	Write Explanations About What Was Observed and Why it Happened	Put Events or Objects in Order and Give a Reason for the Organization
Countries					
United States	r 80 (3.2)	r 40 (3.1)	r 18 (2.3)	r 59 (3.3)	r 40 (3.3)
Belgium (Flemish)	53 (3.4)	37 (2.6)	r 6 (1.5)	r 12 (2.0)	r 9 (1.7)
Canada	r 85 (2.5)	r 35 (3.3)	r 17 (3.1)	r 78 (2.4)	r 36 (3.7)
Chinese Taipei	42 (3.6)	35 (3.7)	14 (2.9)	57 (4.4)	34 (3.7)
Czech Republic	89 (2.0)	17 (1.9)	10 (1.9)	32 (2.9)	32 (2.8)
England	s 64 (4.8)	s 24 (3.7)	s 3 (1.2)	s 67 (4.6)	s 21 (3.7)
Hong Kong, SAR	50 (4.6)	22 (4.0)	10 (2.6)	34 (4.2)	23 (3.5)
Italy	88 (2.4)	44 (3.6)	25 (3.4)	46 (4.1)	43 (4.1)
Japan	69 (4.1)	60 (4.0)	32 (4.0)	57 (4.0)	48 (4.2)
Korea, Rep. of	58 (4.0)	47 (4.0)	16 (2.9)	50 (3.6)	17 (3.0)
Netherlands	57 (3.7)	15 (2.5)	18 (2.8)	34 (4.7)	20 (2.5)
Russian Federation	55 (2.2)	35 (1.8)	10 (1.6)	36 (1.9)	71 (2.2)
Singapore	63 (4.3)	13 (2.8)	8 (1.9)	44 (4.7)	30 (4.1)
States					
Connecticut	s 82 (5.0)	s 41 (8.8)	s 24 (6.4)	s 69 (6.6)	s 34 (7.3)
Idaho	r 73 (5.0)	r 36 (6.0)	r 12 (4.8)	r 47 (7.3)	r 25 (5.6)
Illinois	76 (4.6)	37 (6.7)	21 (6.0)	51 (6.8)	31 (6.8)
Indiana	86 (3.3)	30 (5.6)	36 (6.0)	69 (6.7)	37 (7.7)
Maryland	r 85 (3.9)	s 60 (5.5)	s 29 (5.3)	s 79 (5.3)	s 40 (5.5)
Massachusetts	84 (4.2)	49 (6.3)	24 (4.7)	r 68 (4.9)	r 36 (5.3)
Michigan	r 81 (5.4)	r 46 (6.5)	r 18 (4.8)	r 63 (6.2)	r 36 (6.1)
Missouri	r 81 (4.7)	r 43 (5.8)	r 24 (5.6)	r 54 (6.5)	r 39 (4.8)
North Carolina	81 (5.9)	38 (7.0)	24 (5.2)	64 (4.9)	45 (4.7)
Oregon	76 (6.1)	45 (6.5)	21 (6.0)	56 (6.6)	35 (5.3)
<i>Pennsylvania</i>	77 (6.4)	38 (8.5)	9 (2.5)	51 (8.5)	33 (8.1)
South Carolina	81 (5.6)	65 (4.3)	21 (4.5)	51 (6.6)	36 (5.6)
Texas	r 81 (4.8)	r 64 (5.3)	r 27 (6.7)	r 69 (5.3)	r 59 (6.9)
Districts and Consortia					
Academy School Dist. #20, CO	92 (0.1)	56 (0.4)	26 (0.3)	92 (0.1)	36 (0.3)
Chicago Public Schools, IL	r 81 (8.5)	r 30 (10.7)	r 6 (3.6)	r 62 (10.5)	r 35 (11.7)
Delaware Science Coalition, DE	r 86 (6.1)	r 24 (3.4)	r 18 (5.2)	r 49 (8.5)	r 33 (6.8)
First in the World Consort., IL	82 (2.5)	33 (3.3)	36 (6.3)	69 (3.8)	35 (6.0)
Fremont/Lincoln/WestSide PS, NE	71 (7.6)	56 (3.7)	15 (6.9)	62 (7.0)	19 (8.5)
Guilford County, NC	91 (2.6)	62 (4.3)	47 (5.9)	61 (5.2)	35 (5.0)
Jersey City Public Schools, NJ	r 79 (2.0)	r 57 (4.3)	r 24 (6.7)	r 71 (6.3)	r 40 (4.9)
Miami-Dade County PS, FL	s 82 (8.5)	s 40 (9.2)	s 13 (4.6)	s 79 (5.9)	s 48 (8.4)
Michigan Invitational Group, MI	67 (1.9)	33 (4.5)	7 (0.7)	55 (6.1)	29 (5.5)
Montgomery County, MD	x x	x x	x x	x x	x x
Naperville Sch. Dist. #203, IL	100 (0.0)	79 (1.0)	29 (1.9)	98 (0.6)	44 (4.2)
Project SMART Consortium, OH	r 70 (3.5)	r 46 (4.0)	r 18 (3.5)	r 50 (3.1)	r 28 (4.2)
Rochester City Sch. Dist., NY	r 94 (3.7)	r 26 (5.5)	r 10 (3.7)	r 69 (4.8)	r 16 (3.8)
SW Math/Sci. Collaborative, PA	85 (5.2)	27 (5.0)	23 (7.3)	48 (8.0)	28 (5.5)
International Avg. (All Countries)	68 (0.6)	35 (0.5)	15 (0.4)	52 (0.6)	42 (0.6)

SOURCE: IEA Third International Mathematics and Science Study (TIMSS), 1998-1999.

Background data provided by teachers.

States in *italics* did not fully satisfy guidelines for sample participation rates (see Appendix A for details).

() Standard errors appear in parentheses. Because results are rounded to the nearest whole number, some totals may appear inconsistent.

An "r" indicates teacher response data available for 70-84% of students. An "s" indicates teacher response data available for 50-69% of students. An "x" indicates teacher response data available for <50% of students.

Percentage of Students Reporting Almost Always or Pretty Often

Participants with General/ Integrated Science		Countries with Separate Science Subjects				
		Earth Science	Biology	Physics	Chemistry	
Countries		Belgium (Flemish)	13 (1.0)	71 (1.5)	81 (2.3)	--
United States	71 (1.1)	Czech Republic	6 (0.8)	24 (1.8)	53 (2.3)	76 (1.9)
Canada	77 (1.2)	Netherlands ^b	7 (0.9)	32 (2.8)	56 (2.7)	--
Chinese Taipei ^a	70 (1.3)	Russian Federation	17 (1.1)	37 (1.7)	69 (1.7)	75 (1.6)
England	91 (0.9)	International Avg. (All Separate Science Countries)	19 (0.3)	42 (0.4)	61 (0.5)	68 (0.5)
Hong Kong, SAR	88 (0.9)					
Italy	29 (1.6)					
Japan	75 (1.5)					
Korea, Rep. of	53 (1.7)					
Singapore	88 (1.0)					
States						
Connecticut	78 (2.6)					
Idaho	74 (2.3)					
Illinois	73 (2.1)					
Indiana	73 (1.9)					
Maryland	79 (1.6)					
Massachusetts	76 (2.2)					
Michigan	75 (2.0)					
Missouri	67 (3.0)					
North Carolina	73 (2.2)					
Oregon	78 (1.8)					
<i>Pennsylvania</i>	69 (3.0)					
South Carolina	73 (2.6)					
<i>Texas</i>	73 (2.3)					
Districts and Consortia						
Academy School Dist. #20, CO	84 (1.0)					
Chicago Public Schools, IL	60 (3.8)					
Delaware Science Coalition, DE	71 (2.6)					
First in the World Consort., IL	87 (1.5)					
Fremont/Lincoln/WestSide PS, NE	76 (1.9)					
Guilford County, NC	75 (2.1)					
Jersey City Public Schools, NJ	71 (1.7)					
Miami-Dade County PS, FL	75 (3.2)					
Michigan Invitational Group, MI	74 (1.5)					
Montgomery County, MD	76 (2.1)					
Naperville Sch. Dist. #203, IL	81 (1.0)					
Project SMART Consortium, OH	75 (1.5)					
Rochester City Sch. Dist., NY	83 (2.5)					
SW Math/Sci. Collaborative, PA	69 (3.2)					
International Avg. (All General Science Countries)	71 (0.3)					

SOURCE: IEA Third International Mathematics and Science Study (TIMSS), 1998-1999.

Background data provided by students.

* Countries administered either a general/integrated science or separate subject area form of the questionnaire. In countries that administered the separate subject area form, students were asked about each subject area separately. Percentages for separate science subject areas are based only on those students taking each subject.

^a Chinese Taipei: Students were asked about 'natural science'; data pertain to grade 8 physics/chemistry course.

^b Netherlands: Data for physics/chemistry teachers are reported in the physics panel.

States in *italics* did not fully satisfy guidelines for sample participation rates (see Appendix A for details).

() Standard errors appear in parentheses. Because results are rounded to the nearest whole number, some totals may appear inconsistent.

A dash (–) indicates data are not available.

An "s" indicates a 50-69% student response rate.

Percentage of Students Reporting Almost Always or Pretty Often

Participants with General/Integrated Science		Countries with Separate Science Subjects				
		Earth Science	Biology	Physics	Chemistry	
Countries		Belgium (Flemish)	8 (0.7)	36 (1.6)	61 (3.1)	--
United States	65 (1.5)	Czech Republic	5 (0.5)	25 (2.0)	31 (2.2)	39 (2.4)
Canada	69 (1.4)	Netherlands ^b	5 (0.8)	20 (2.2)	41 (2.9)	--
Chinese Taipei ^a	57 (1.6)	Russian Federation	13 (0.9)	20 (1.0)	41 (1.6)	41 (1.8)
England	89 (1.1)	International Avg. (All Separate Science Countries)	15 (0.3)	27 (0.4)	39 (0.5)	39 (0.5)
Hong Kong, SAR	77 (1.2)					
Italy	18 (1.1)					
Japan	79 (1.7)					
Korea, Rep. of	46 (1.5)					
Singapore	65 (1.4)					
States						
Connecticut	75 (2.9)					
Idaho	60 (3.1)					
Illinois	64 (2.9)					
Indiana	66 (2.5)					
Maryland	77 (1.8)					
Massachusetts	70 (2.8)					
Michigan	72 (2.3)					
Missouri	60 (2.7)					
North Carolina	64 (2.7)					
Oregon	73 (2.4)					
<i>Pennsylvania</i>	61 (3.1)					
South Carolina	63 (3.1)					
<i>Texas</i>	62 (2.5)					
Districts and Consortia						
Academy School Dist. #20, CO	87 (0.9)					
Chicago Public Schools, IL	44 (4.5)					
Delaware Science Coalition, DE	65 (2.5)					
First in the World Consort., IL	86 (2.6)					
Fremont/Lincoln/WestSide PS, NE	78 (2.0)					
Guilford County, NC	65 (2.4)					
Jersey City Public Schools, NJ	55 (1.9)					
Miami-Dade County PS, FL	66 (3.3)					
Michigan Invitational Group, MI	73 (1.0)					
Montgomery County, MD	75 (2.5)					
Naperville Sch. Dist. #203, IL	89 (1.1)					
Project SMART Consortium, OH	68 (1.5)					
Rochester City Sch. Dist., NY	77 (2.7)					
SW Math/Sci. Collaborative, PA	58 (3.8)					
International Avg. (All General Science Countries)	57 (0.3)					

SOURCE: IEA Third International Mathematics and Science Study (TIMSS), 1998-1999.

Background data provided by students.

* Countries administered either a general/integrated science or separate subject area form of the questionnaire. In countries that administered the separate subject area form, students were asked about each subject area separately. Percentages for separate science subject areas are based only on those students taking each subject.

^a Chinese Taipei: Students were asked about 'natural science'; data pertain to grade 8 physics/chemistry course.

^b Netherlands: Data for physics/chemistry teachers are reported in the physics panel.

States in *italics* did not fully satisfy guidelines for sample participation rates (see Appendix A for details).

() Standard errors appear in parentheses. Because results are rounded to the nearest whole number, some totals may appear inconsistent.

A dash (–) indicates data are not available.

An "s" indicates a 50-69% student response rate.

Percentage of Students Reporting Almost Always or Pretty Often						
Participants with General/ Integrated Science		Countries with Separate Science Subjects				
		Earth Science	Biology	Physics	Chemistry	
Countries						
United States	50 (1.0)	Belgium (Flemish)	29 (0.9)	35 (1.1)	40 (1.8)	--
Canada	51 (0.9)	Czech Republic	31 (1.4)	37 (1.5)	39 (1.7)	31 (1.4)
Chinese Taipei ^a	66 (1.2)	Netherlands ^b	33 (1.7)	42 (2.0)	31 (1.6)	--
England	51 (1.2)	Russian Federation	39 (1.7)	43 (1.3)	41 (1.1)	37 (1.4)
Hong Kong, SAR	63 (1.0)					
Italy	31 (1.1)	International Avg. (All Science Separate Countries)	34 (0.4)	41 (0.4)	42 (0.4)	38 (0.4)
Japan	21 (1.1)					
Korea, Rep. of	39 (1.1)					
Singapore	64 (1.2)					
States						
Connecticut	51 (1.9)					
Idaho	49 (1.7)					
Illinois	50 (1.8)					
Indiana	47 (1.9)					
Maryland	52 (1.3)					
Massachusetts	48 (1.5)					
Michigan	49 (1.8)					
Missouri	49 (2.0)					
North Carolina	56 (1.6)					
Oregon	48 (1.8)					
<i>Pennsylvania</i>	44 (1.9)					
South Carolina	51 (1.9)					
<i>Texas</i>	47 (1.7)					
Districts and Consortia						
Academy School Dist. #20, CO	50 (1.4)					
Chicago Public Schools, IL	51 (2.6)					
Delaware Science Coalition, DE	49 (2.1)					
First in the World Consort., IL	49 (2.0)					
Fremont/Lincoln/WestSide PS, NE	53 (2.1)					
Guilford County, NC	52 (1.4)					
Jersey City Public Schools, NJ	59 (2.0)					
Miami-Dade County PS, FL	64 (2.0)					
Michigan Invitational Group, MI	48 (1.8)					
Montgomery County, MD	48 (1.8)					
Naperville Sch. Dist. #203, IL	60 (1.4)					
Project SMART Consortium, OH	50 (1.7)					
Rochester City Sch. Dist., NY ^s	65 (2.7)					
SW Math/Sci. Collaborative, PA	45 (2.2)					
International Avg. (All General Science Countries)	49 (0.2)					

SOURCE: IEA Third International Mathematics and Science Study (TIMSS), 1998-1999.

Background data provided by students.

* Countries administered either a general/integrated science or separate subject area form of the questionnaire. In countries that administered the separate subject area form, students were asked about each subject area separately. Percentages for separate science subject areas are based only on those students taking each subject.

^a Chinese Taipei: Students were asked about 'natural science'; data pertain to grade 8 physics/chemistry course.

^b Netherlands: Data for physics/chemistry teachers are reported in the physics panel.

States in *italics* did not fully satisfy guidelines for sample participation rates (see Appendix A for details).

() Standard errors appear in parentheses. Because results are rounded to the nearest whole number, some totals may appear inconsistent.

A dash (–) indicates data are not available.

An "s" indicates a 50-69% student response rate.

	Percentage of Students Taught by Teachers						
	Assigning Homework Three Times a Week or More Often		Assigning Homework Once or Twice a Week		Assigning Homework Less Than Once a Week		Never Assigning Homework
	30 Minutes or Less	More Than 30 Minutes	30 Minutes or Less	More Than 30 Minutes	30 Minutes or Less	More Than 30 Minutes	
Countries							
United States	35 (3.8)	8 (1.4)	32 (3.5)	11 (2.0)	10 (2.1)	2 (0.7)	3 (1.6)
Belgium (Flemish)	0 (0.0)	0 (0.0)	7 (2.0)	1 (0.6)	68 (3.5)	10 (2.1)	14 (2.4)
Canada	19 (2.7)	6 (2.1)	50 (3.5)	8 (1.8)	14 (2.6)	3 (1.4)	0 (0.3)
Chinese Taipei	8 (2.4)	7 (2.2)	42 (4.3)	19 (3.2)	20 (3.3)	4 (1.6)	0 (0.0)
Czech Republic	0 (0.2)	0 (0.0)	20 (2.4)	0 (0.3)	74 (2.5)	1 (0.5)	5 (0.9)
England	3 (1.7)	0 (0.0)	51 (4.3)	37 (4.1)	7 (2.1)	1 (0.8)	0 (0.0)
Hong Kong, SAR	1 (0.8)	1 (0.0)	53 (4.3)	13 (2.8)	19 (3.6)	13 (2.9)	1 (0.0)
Italy	3 (1.4)	8 (2.3)	28 (3.0)	50 (3.4)	8 (1.8)	3 (1.3)	0 (0.4)
Japan	2 (1.1)	1 (1.0)	10 (2.6)	3 (1.3)	43 (4.2)	23 (3.6)	20 (3.4)
Korea, Rep. of	9 (2.5)	1 (1.0)	27 (3.6)	6 (2.0)	37 (3.8)	16 (2.7)	3 (0.8)
Netherlands	6 (1.8)	2 (1.1)	72 (3.2)	4 (1.1)	15 (3.4)	1 (0.4)	1 (0.7)
Russian Federation	12 (1.4)	6 (0.9)	53 (2.5)	26 (2.4)	3 (0.8)	0 (0.2)	0 (0.2)
Singapore	9 (2.6)	5 (1.4)	44 (4.0)	30 (4.1)	11 (2.4)	2 (1.1)	1 (0.6)
States							
Connecticut	66 (6.8)	13 (4.6)	16 (4.8)	2 (0.3)	1 (0.8)	1 (0.1)	0 (0.0)
Idaho	22 (5.6)	1 (0.7)	29 (5.3)	9 (2.5)	32 (7.3)	1 (0.1)	6 (3.7)
Illinois	38 (6.8)	8 (3.2)	33 (7.4)	7 (2.4)	14 (4.4)	1 (0.6)	0 (0.0)
Indiana	39 (8.2)	3 (1.7)	35 (7.3)	7 (2.5)	13 (5.1)	2 (1.9)	1 (1.2)
Maryland	47 (6.0)	5 (0.9)	35 (4.9)	6 (2.3)	6 (2.0)	0 (0.0)	1 (0.9)
Massachusetts	59 (5.7)	18 (3.9)	20 (5.1)	3 (1.8)	0 (0.0)	0 (0.0)	0 (0.0)
Michigan	32 (6.0)	4 (1.8)	41 (5.5)	10 (3.0)	9 (3.6)	3 (2.6)	1 (0.9)
Missouri	27 (5.5)	3 (2.3)	39 (6.9)	10 (3.2)	16 (3.7)	3 (1.7)	1 (1.3)
North Carolina	44 (6.6)	4 (2.0)	33 (5.2)	3 (2.1)	14 (3.2)	3 (2.2)	0 (0.0)
Oregon	11 (3.9)	1 (0.0)	47 (7.1)	18 (5.5)	15 (5.1)	6 (2.9)	3 (2.9)
Pennsylvania	39 (5.6)	6 (3.7)	32 (4.6)	11 (3.7)	10 (3.4)	1 (0.7)	0 (0.3)
South Carolina	36 (7.7)	4 (2.5)	44 (6.8)	2 (1.0)	8 (2.6)	3 (1.6)	3 (1.8)
Texas	10 (2.9)	3 (2.3)	41 (6.7)	14 (4.1)	23 (6.7)	5 (2.5)	4 (1.4)
Districts and Consortia							
Academy School Dist. #20, CO	16 (0.2)	24 (0.3)	33 (0.4)	26 (0.3)	0 (0.0)	0 (0.0)	0 (0.0)
Chicago Public Schools, IL	45 (13.0)	19 (9.2)	17 (7.3)	19 (6.7)	0 (0.0)	0 (0.0)	0 (0.0)
Delaware Science Coalition, DE	43 (6.7)	0 (0.0)	41 (6.1)	4 (3.6)	11 (5.2)	0 (0.0)	0 (0.0)
First in the World Consort., IL	67 (7.3)	4 (3.5)	17 (5.7)	0 (0.0)	10 (1.6)	1 (0.1)	0 (0.0)
Fremont/Lincoln/WestSide PS, NE	18 (3.3)	3 (3.0)	29 (8.2)	4 (3.7)	39 (4.6)	0 (0.0)	7 (7.0)
Guilford County, NC	27 (5.2)	0 (0.0)	54 (5.1)	5 (1.8)	13 (3.7)	0 (0.0)	0 (0.0)
Jersey City Public Schools, NJ	43 (4.6)	15 (3.2)	34 (4.6)	4 (0.5)	3 (0.3)	0 (0.0)	0 (0.0)
Miami-Dade County PS, FL	40 (10.5)	15 (5.2)	27 (9.0)	12 (4.7)	4 (3.7)	1 (0.1)	0 (0.0)
Michigan Invitational Group, MI	39 (6.2)	6 (1.1)	33 (6.9)	22 (2.9)	0 (0.0)	0 (0.0)	0 (0.0)
Montgomery County, MD	x x	x x	x x	x x	x x	x x	x x
Naperville Sch. Dist. #203, IL	79 (2.9)	17 (2.8)	4 (0.6)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Project SMART Consortium, OH	31 (4.0)	1 (0.9)	34 (3.2)	21 (3.3)	13 (2.9)	0 (0.0)	0 (0.0)
Rochester City Sch. Dist., NY	16 (4.3)	18 (3.4)	24 (5.3)	25 (5.0)	17 (5.5)	0 (0.0)	0 (0.0)
SW Math/Sci. Collaborative, PA	30 (7.2)	4 (2.3)	43 (6.2)	5 (3.0)	14 (5.1)	3 (1.2)	2 (1.3)
International Avg. (All Countries)	15 (0.4)	5 (0.3)	37 (0.6)	15 (0.4)	20 (0.4)	5 (0.3)	3 (0.2)

SOURCE: IEA Third International Mathematics and Science Study (TIMSS), 1998-1999.

Background data provided by teachers.

States in *italics* did not fully satisfy guidelines for sample participation rates (see Appendix A for details).

() Standard errors appear in parentheses. Because results are rounded to the nearest whole number, some totals may appear inconsistent.

An "r" indicates teacher response data available for 70-84% of students. An "s" indicates teacher response data available for 50-69% of students. An "x" indicates teacher response data available for <50% of students.

	Sometimes or Always		Never or Rarely	
	Percent of Students	Average Achievement	Percent of Students	Average Achievement
Countries				
United States	r 58 (3.4)	521 (6.6)	42 (3.4)	519 (5.3)
Belgium (Flemish)	r 11 (2.5)	534 (10.5)	89 (2.5)	537 (4.4)
Canada	r 56 (3.4)	532 (3.5)	44 (3.4)	538 (4.6)
Chinese Taipei	6 (2.1)	566 (14.4)	94 (2.1)	569 (4.5)
Czech Republic	12 (1.8)	550 (10.0)	88 (1.8)	540 (4.1)
England	s 24 (4.2)	563 (14.3)	76 (4.2)	542 (6.0)
Hong Kong, SAR	10 (2.6)	551 (8.1)	90 (2.6)	527 (4.2)
Italy	44 (4.1)	493 (5.4)	56 (4.1)	493 (5.3)
Japan	r 4 (1.9)	558 (9.0)	96 (1.9)	550 (2.2)
Korea, Rep. of	35 (4.0)	552 (3.7)	65 (4.0)	547 (3.4)
Netherlands	27 (2.9)	549 (7.2)	73 (2.9)	544 (8.9)
Russian Federation	29 (2.0)	538 (12.8)	71 (2.0)	526 (5.3)
Singapore	38 (4.3)	575 (11.0)	62 (4.3)	563 (10.0)
States				
Connecticut	s 63 (6.0)	531 (14.2)	37 (6.0)	540 (10.6)
Idaho	s 51 (4.9)	531 (7.0)	49 (4.9)	523 (9.8)
Illinois	45 (7.9)	522 (9.3)	55 (7.9)	530 (7.2)
Indiana	r 69 (5.9)	537 (8.2)	31 (5.9)	537 (10.8)
Maryland	s 61 (5.9)	505 (9.4)	39 (5.9)	503 (12.3)
Massachusetts	r 55 (5.3)	521 (9.8)	45 (5.3)	554 (8.8)
Michigan	r 53 (6.5)	564 (7.1)	47 (6.5)	544 (10.7)
Missouri	r 54 (4.5)	523 (12.1)	46 (4.5)	528 (5.4)
North Carolina	60 (3.7)	509 (10.2)	40 (3.7)	502 (7.9)
Oregon	68 (6.0)	544 (6.8)	32 (6.0)	532 (10.8)
Pennsylvania	52 (6.6)	532 (9.1)	48 (6.6)	526 (6.5)
South Carolina	59 (6.3)	516 (8.7)	41 (6.3)	510 (9.7)
Texas	s 62 (7.6)	535 (10.1)	38 (7.6)	478 (16.8)
Districts and Consortia				
Academy School Dist. #20, CO	69 (0.6)	561 (2.6)	31 (0.6)	555 (3.5)
Chicago Public Schools, IL	r 50 (10.7)	451 (19.4)	50 (10.7)	456 (12.2)
Delaware Science Coalition, DE	s 37 (5.6)	499 (17.4)	63 (5.6)	501 (13.1)
First in the World Consort., IL	78 (3.4)	559 (6.4)	22 (3.4)	581 (9.2)
Fremont/Lincoln/WestSide PS, NE	r 63 (7.1)	508 (12.7)	37 (7.1)	520 (8.0)
Guilford County, NC	68 (5.1)	548 (9.0)	32 (5.1)	503 (17.9)
Jersey City Public Schools, NJ	r 81 (1.9)	451 (10.1)	19 (1.9)	439 (7.7)
Miami-Dade County PS, FL	s 81 (5.9)	421 (11.5)	19 (5.9)	472 (13.7)
Michigan Invitational Group, MI	48 (3.1)	561 (6.7)	52 (3.1)	568 (9.7)
Montgomery County, MD	x x	x x	x x	x x
Naperville Sch. Dist. #203, IL	92 (0.8)	582 (4.6)	8 (0.8)	610 (13.0)
Project SMART Consortium, OH	r 44 (4.0)	526 (12.0)	56 (4.0)	546 (11.5)
Rochester City Sch. Dist., NY	r 18 (4.7)	463 (11.5)	82 (4.7)	447 (10.4)
SW Math/Sci. Collaborative, PA	61 (8.0)	542 (8.5)	39 (8.0)	548 (12.9)
International Avg. (All Countries)	34 (0.6)	491 (1.4)	66 (0.6)	485 (1.0)

SOURCE: IEA Third International Mathematics and Science Study (TIMSS), 1998-1999.

Background data provided by teachers.

* Based on average response to questions about assigning homework based on small investigation(s) or gathering data, working individually on long term projects or experiments, and working as a small group on long term projects or experiments.

 States in *italics* did not fully satisfy guidelines for sample participation rates (see Appendix A for details).

() Standard errors appear in parentheses. Because results are rounded to the nearest whole number, some totals may appear inconsistent.

An "r" indicates teacher response data available for 70-84% of students. An "s" indicates teacher response data available for 50-69% of students. An "x" indicates teacher response data available for <50% of students.

Percentage of Students Reporting Almost Always or Pretty Often

Participants with General/Integrated Science		Countries with Separate Science Subjects				
		Earth Science	Biology	Physics	Chemistry	
Countries						
United States	77 (1.2)	Belgium (Flemish)	45 (1.9)	55 (1.5)	58 (2.4)	--
Canada	62 (1.8)	Czech Republic	37 (2.2)	40 (2.1)	38 (1.7)	45 (2.2)
Chinese Taipei ^a	74 (1.3)	Netherlands ^b	49 (2.7)	56 (3.1)	51 (2.7)	--
England	63 (1.7)	Russian Federation	65 (1.2)	66 (1.5)	75 (1.1)	77 (1.2)
Hong Kong, SAR	36 (1.8)					
Italy	35 (1.4)	International Avg. (All Separate Science Countries)	46 (0.5)	49 (0.5)	51 (0.4)	52 (0.5)
Japan	29 (1.8)					
Korea, Rep. of	27 (1.7)					
Singapore	64 (1.3)					
States						
Connecticut	78 (1.8)					
Idaho	79 (2.2)					
Illinois	76 (2.7)					
Indiana	74 (2.3)					
Maryland	70 (2.0)					
Massachusetts	80 (1.5)					
Michigan	73 (3.0)					
Missouri	79 (1.4)					
North Carolina	85 (1.9)					
Oregon	70 (2.3)					
Pennsylvania	75 (2.3)					
South Carolina	85 (1.6)					
Texas	77 (1.9)					
Districts and Consortia						
Academy School Dist. #20, CO	73 (1.2)					
Chicago Public Schools, IL	78 (3.7)					
Delaware Science Coalition, DE	73 (2.8)					
First in the World Consort., IL	76 (2.1)					
Fremont/Lincoln/WestSide PS, NE	69 (3.0)					
Guilford County, NC	82 (2.4)					
Jersey City Public Schools, NJ	75 (2.0)					
Miami-Dade County PS, FL	76 (2.1)					
Michigan Invitational Group, MI	77 (1.7)					
Montgomery County, MD	58 (3.1)					
Naperville Sch. Dist. #203, IL	85 (0.6)					
Project SMART Consortium, OH	77 (1.6)					
Rochester City Sch. Dist., NY	81 (1.7) ^s					
SW Math/Sci. Collaborative, PA	74 (1.4)					
International Avg. (All General Science Countries)	58 (0.3)					

SOURCE: IEA Third International Mathematics and Science Study (TIMSS), 1998-1999.

Background data provided by students.

* Countries administered either a general/integrated science or separate subject area form of the questionnaire. In countries that administered the separate subject area form, students were asked about each subject area separately. Percentages for separate science subject areas are based only on those students taking each subject.

^a Chinese Taipei: Students were asked about 'natural science'; data pertain to grade 8 physics/chemistry course.

^b Netherlands: Data for physics/chemistry teachers are reported in the physics panel.

States in *italics* did not fully satisfy guidelines for sample participation rates (see Appendix A for details).

() Standard errors appear in parentheses. Because results are rounded to the nearest whole number, some totals may appear inconsistent.

A dash (–) indicates data are not available.

An "s" indicates a 50-69% student response rate.