

REFERENCE

3

Teachers
and Instruction



	Percentage of Students Whose Teachers Report Feeling Very Well Prepared to Teach Topic ¹					
	Fractions, decimals and percentages	Ratios and proportions	Measurement – units, instruments, and accuracy	Perimeter, area, and volume	Geometric figures – definitions and properties	Geometric figures – symmetry, motions and transformations, congruence and similarity
Countries						
United States	99 (0.8)	97 (1.1)	84 (2.0)	97 (1.1)	86 (2.7)	75 (2.9)
Belgium (Flemish)	97 (1.4)	93 (1.7)	62 (4.1)	92 (2.0)	93 (2.1)	89 (3.1)
Canada	91 (2.1)	89 (2.4)	r 83 (2.7)	93 (2.2)	77 (2.8)	r 62 (3.4)
Chinese Taipei	80 (3.3)	83 (2.9)	65 (3.8)	77 (3.4)	77 (3.1)	70 (3.5)
Czech Republic	99 (1.3)	98 (1.3)	74 (5.0)	99 (1.3)	96 (2.1)	96 (2.0)
England	--	--	--	--	--	--
Hong Kong, SAR	75 (3.6)	76 (3.7)	67 (4.1)	86 (3.0)	66 (4.0)	53 (4.3)
Italy	79 (3.2)	80 (3.1)	55 (3.6)	86 (2.6)	84 (2.7)	45 (3.9)
Japan	15 (3.2)	20 (3.2)	9 (2.0)	26 (3.7)	23 (3.6)	20 (3.5)
Korea, Rep. of	57 (3.7)	52 (3.9)	38 (3.8)	63 (3.2)	72 (3.2)	63 (3.7)
Netherlands	90 (5.8)	90 (5.9)	69 (5.5)	90 (5.8)	82 (6.3)	79 (6.2)
Russian Federation	--	--	--	--	--	--
Singapore	80 (3.8)	82 (3.4)	76 (4.3)	90 (2.9)	79 (3.6)	69 (4.0)
States						
Connecticut	r 99 (1.4)	r 97 (1.9)	r 86 (5.7)	r 96 (2.2)	r 88 (5.9)	r 80 (5.6)
Idaho	r 97 (1.5)	r 92 (2.8)	r 89 (2.7)	r 95 (2.3)	r 72 (5.2)	r 57 (7.1)
Illinois	100 (0.1)	96 (3.6)	83 (5.1)	97 (2.2)	90 (4.5)	73 (6.1)
Indiana	98 (1.7)	100 (0.0)	86 (4.7)	95 (3.1)	88 (2.6)	72 (6.0)
Maryland	r 98 (1.4)	r 98 (1.4)	r 92 (3.0)	r 100 (0.1)	r 90 (3.5)	r 78 (4.5)
Massachusetts	96 (2.4)	95 (2.6)	88 (4.0)	96 (2.4)	87 (3.2)	74 (4.7)
Michigan	98 (1.9)	99 (0.9)	92 (2.9)	99 (1.0)	90 (3.7)	84 (4.2)
Missouri	98 (1.6)	98 (1.6)	89 (4.0)	98 (1.6)	92 (3.2)	77 (5.3)
North Carolina	98 (1.8)	98 (1.8)	77 (6.1)	98 (1.1)	96 (2.1)	78 (4.4)
Oregon	92 (3.5)	85 (3.8)	84 (4.1)	95 (1.9)	78 (5.2)	73 (6.3)
Pennsylvania	100 (0.0)	95 (4.7)	89 (5.3)	95 (4.7)	91 (5.0)	78 (5.9)
South Carolina	100 (0.0)	97 (2.3)	91 (3.4)	100 (0.0)	99 (1.1)	73 (5.6)
Texas	r 95 (2.7)	r 93 (3.2)	r 90 (3.1)	r 95 (2.7)	r 88 (4.4)	r 88 (3.9)
Districts and Consortia						
Academy School Dist. #20, CO	92 (0.2)	92 (0.2)	92 (0.2)	92 (0.2)	88 (0.3)	92 (0.2)
Chicago Public Schools, IL	99 (0.8)	99 (0.8)	83 (8.5)	97 (2.9)	83 (8.7)	74 (10.4)
Delaware Science Coalition, DE	r 97 (2.3)	r 98 (2.2)	r 94 (2.8)	r 95 (3.4)	r 79 (5.1)	r 70 (5.8)
First in the World Consort., IL	100 (0.0)	95 (5.2)	97 (1.9)	100 (0.0)	93 (5.5)	93 (5.5)
Fremont/Lincoln/WestSide PS, NE	95 (0.2)	95 (0.2)	72 (5.7)	82 (4.9)	76 (4.8)	69 (3.3)
Guilford County, NC	98 (1.7)	98 (1.7)	77 (5.6)	86 (4.5)	87 (4.9)	77 (5.3)
Jersey City Public Schools, NJ	100 (0.0)	100 (0.0)	93 (4.0)	100 (0.0)	94 (2.6)	100 (0.0)
Miami-Dade County PS, FL	s 99 (1.3)	s 95 (3.2)	s 82 (7.2)	s 97 (2.3)	s 86 (6.3)	s 60 (9.3)
Michigan Invitational Group, MI	100 (0.0)	96 (2.7)	87 (6.2)	100 (0.0)	89 (2.7)	70 (6.7)
Montgomery County, MD	s 99 (1.3)	s 96 (3.2)	s 84 (6.3)	s 99 (1.3)	s 90 (5.2)	s 94 (3.7)
Naperville Sch. Dist. #203, IL	100 (0.0)	100 (0.0)	95 (1.9)	98 (1.9)	98 (2.0)	87 (2.1)
Project SMART Consortium, OH	100 (0.0)	96 (1.7)	98 (0.4)	100 (0.0)	87 (4.3)	73 (5.0)
Rochester City Sch. Dist., NY	93 (2.0)	93 (2.0)	76 (4.5)	93 (2.0)	89 (1.5)	82 (3.1)
SW Math/Sci. Collaborative, PA	100 (0.0)	99 (1.3)	95 (2.7)	98 (1.4)	91 (4.0)	81 (5.0)
International Avg. (All Countries)	82 (0.5)	79 (0.5)	65 (0.6)	82 (0.5)	77 (0.6)	65 (0.6)

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).

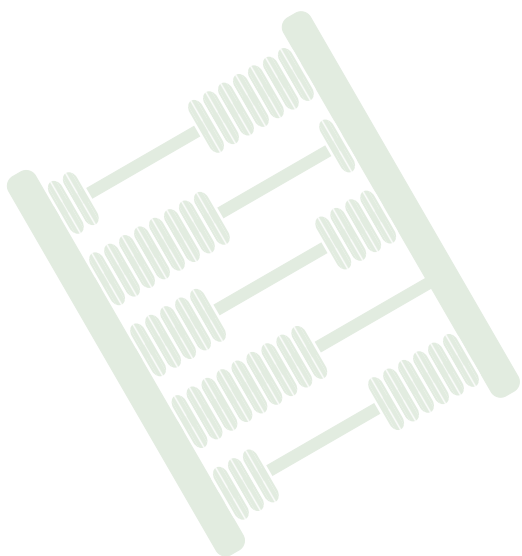
() Standard errors appear in parentheses. Because results are rounded to the nearest whole number, some totals may appear inconsistent.

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.

	Percentage of Students Whose Teachers Report Feeling Very Well Prepared to Teach Topic ¹							Average ²
	Coordinate geometry	Algebraic representation	Evaluate and perform operations on algebraic expressions	Solving linear equations and inequalities	Representation and interpretation of data in graphs, charts, and tables	Simple probabilities – understanding and calculations		
Countries								
United States	82 (2.6)	94 (1.6)	95 (1.3)	93 (1.5)	94 (1.5)	90 (2.1)	90 (1.2)	
Belgium (Flemish)	71 (3.9)	85 (3.1)	86 (2.6)	83 (3.3)	64 (2.9)	30 (4.6)	80 (1.4)	
Canada	r 64 (3.6)	r 83 (2.5)	82 (2.5)	r 74 (2.8)	79 (2.9)	r 70 (3.3)	79 (1.7)	
Chinese Taipei	81 (3.2)	82 (2.9)	85 (2.9)	84 (3.0)	74 (3.7)	73 (3.7)	78 (2.6)	
Czech Republic	84 (4.2)	88 (3.6)	95 (2.4)	97 (1.9)	75 (5.1)	52 (5.6)	88 (1.8)	
England	--	--	--	--	--	--	--	
Hong Kong, SAR	82 (3.4)	85 (3.2)	87 (3.0)	74 (3.9)	58 (4.4)	58 (3.9)	72 (2.6)	
Italy	64 (4.0)	62 (3.8)	79 (2.9)	71 (3.2)	70 (3.1)	53 (4.2)	69 (2.3)	
Japan	25 (3.9)	28 (4.4)	33 (4.3)	37 (4.4)	19 (3.3)	19 (3.7)	23 (2.6)	
Korea, Rep. of	49 (3.4)	56 (3.9)	74 (3.3)	83 (2.9)	55 (3.8)	67 (3.9)	61 (2.5)	
Netherlands	88 (5.9)	87 (6.0)	77 (6.4)	87 (5.9)	85 (5.8)	77 (6.3)	84 (5.3)	
Russian Federation	--	--	--	--	--	--	--	
Singapore	79 (3.6)	85 (3.3)	86 (3.1)	89 (2.9)	80 (3.6)	46 (5.2)	78 (2.7)	
States								
Connecticut	r 82 (6.2)	r 98 (1.7)	r 97 (2.1)	r 96 (2.1)	r 90 (5.4)	r 84 (6.3)	r 91 (3.0)	
Idaho	r 70 (6.0)	r 82 (3.5)	r 92 (4.0)	r 88 (4.2)	r 89 (4.9)	r 70 (6.1)	r 83 (2.8)	
Illinois	78 (5.6)	89 (5.6)	97 (1.6)	95 (2.1)	93 (3.2)	92 (2.0)	90 (2.0)	
Indiana	74 (5.1)	97 (2.0)	99 (1.4)	96 (2.1)	87 (6.6)	80 (7.0)	89 (2.2)	
Maryland	r 83 (4.6)	r 97 (1.3)	r 97 (1.3)	r 92 (2.9)	r 91 (3.0)	r 88 (3.9)	r 92 (1.5)	
Massachusetts	82 (4.6)	96 (2.3)	96 (2.3)	95 (2.3)	96 (2.2)	78 (4.6)	90 (2.2)	
Michigan	89 (3.8)	93 (2.5)	96 (1.9)	95 (2.7)	94 (2.8)	87 (4.3)	93 (1.7)	
Missouri	78 (4.9)	93 (2.6)	95 (2.7)	95 (2.2)	97 (1.7)	85 (5.0)	91 (2.0)	
North Carolina	86 (3.9)	92 (3.0)	95 (2.4)	91 (3.8)	91 (3.8)	79 (5.4)	90 (2.2)	
Oregon	68 (6.1)	83 (4.5)	83 (4.6)	80 (5.0)	93 (3.3)	86 (4.0)	83 (2.8)	
Pennsylvania	87 (5.3)	92 (5.1)	94 (4.8)	93 (4.9)	92 (4.9)	88 (5.4)	91 (4.5)	
South Carolina	88 (4.2)	97 (1.8)	99 (1.4)	93 (2.1)	97 (2.2)	89 (4.7)	94 (1.4)	
Texas	r 82 (5.5)	r 96 (2.0)	r 94 (2.6)	r 95 (2.3)	r 95 (2.1)	r 89 (4.6)	r 91 (2.3)	
Districts and Consortia								
Academy School Dist. #20, CO	92 (0.2)	92 (0.2)	92 (0.2)	92 (0.2)	92 (0.2)	92 (0.2)	92 (0.2)	
Chicago Public Schools, IL	83 (8.6)	89 (5.9)	93 (4.4)	86 (7.2)	96 (2.8)	97 (2.7)	90 (3.8)	
Delaware Science Coalition, DE	r 76 (5.4)	r 85 (5.0)	r 95 (3.6)	r 94 (3.8)	r 90 (2.3)	r 88 (4.6)	r 88 (2.7)	
First in the World Consort., IL	91 (5.9)	100 (0.0)	100 (0.0)	98 (1.6)	100 (0.0)	94 (5.3)	97 (2.3)	
Fremont/Lincoln/WestSide PS, NE	73 (3.1)	95 (0.2)	95 (0.2)	95 (0.2)	90 (4.9)	84 (1.0)	85 (1.8)	
Guilford County, NC	88 (4.7)	95 (2.7)	97 (2.1)	94 (4.0)	87 (5.2)	86 (5.4)	89 (3.1)	
Jersey City Public Schools, NJ	74 (3.8)	93 (0.5)	98 (0.1)	78 (3.1)	100 (0.0)	96 (2.2)	94 (1.0)	
Miami-Dade County PS, FL	s 69 (6.8)	s 92 (3.5)	s 92 (3.5)	s 90 (4.3)	s 89 (7.1)	s 87 (5.0)	s 86 (2.9)	
Michigan Invitational Group, MI	90 (2.3)	96 (2.1)	96 (2.1)	96 (2.1)	90 (5.5)	91 (5.5)	92 (1.5)	
Montgomery County, MD	s 88 (4.0)	s 93 (3.0)	s 93 (3.0)	s 91 (3.9)	s 89 (3.7)	s 85 (5.7)	s 91 (2.9)	
Naperville Sch. Dist. #203, IL	98 (2.0)	94 (2.1)	100 (0.0)	100 (0.0)	97 (0.1)	97 (0.1)	97 (1.0)	
Project SMART Consortium, OH	81 (4.6)	96 (1.9)	97 (2.4)	95 (2.8)	95 (3.7)	93 (4.4)	93 (1.6)	
Rochester City Sch. Dist., NY	92 (2.6)	100 (0.0)	100 (0.0)	100 (0.0)	94 (2.0)	100 (0.0)	93 (1.1)	
SW Math/Sci. Collaborative, PA	85 (4.4)	99 (0.5)	99 (1.3)	97 (1.6)	95 (2.5)	84 (5.7)	94 (1.4)	
International Avg. (All Countries)	66 (0.7)	76 (0.6)	80 (0.6)	81 (0.5)	68 (0.7)	55 (0.7)	73 (0.4)	

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



	None		A Little		Some		A Lot	
	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement
Countries								
United States	r 62 (4.2)	514 (5.3)	23 (3.5)	497 (6.2)	13 (2.6)	461 (9.3)	3 (1.0)	446 (15.1)
Belgium (Flemish)	84 (3.6)	557 (4.5)	12 (3.3)	554 (22.2)	2 (1.2)	~ ~	1 (0.9)	~ ~
Canada	54 (3.1)	536 (3.1)	27 (3.2)	531 (4.3)	16 (2.4)	514 (7.7)	3 (0.8)	525 (18.6)
Chinese Taipei	43 (4.3)	591 (5.1)	36 (4.4)	584 (7.3)	12 (3.0)	590 (11.4)	9 (2.2)	551 (13.3)
Czech Republic	90 (2.9)	521 (4.7)	6 (2.6)	506 (15.6)	3 (1.8)	527 (26.2)	1 (0.9)	~ ~
England	r 71 (4.1)	508 (5.8)	19 (3.6)	482 (7.3)	8 (2.8)	485 (17.1)	2 (1.2)	~ ~
Hong Kong, SAR	55 (4.5)	596 (6.0)	28 (4.2)	555 (9.6)	10 (2.6)	583 (15.9)	7 (2.1)	602 (15.1)
Italy	38 (4.1)	478 (5.5)	36 (3.6)	483 (7.6)	20 (3.3)	473 (9.0)	6 (1.7)	487 (13.3)
Japan	65 (3.9)	579 (2.1)	17 (2.8)	583 (4.2)	8 (2.4)	577 (6.0)	10 (2.5)	572 (5.5)
Korea, Rep. of	19 (3.2)	589 (5.4)	48 (3.9)	587 (2.5)	22 (3.8)	586 (4.4)	11 (2.7)	591 (4.9)
Netherlands	r 52 (6.5)	546 (11.8)	23 (5.3)	541 (15.4)	19 (6.8)	518 (22.8)	5 (2.0)	560 (22.0)
Russian Federation	51 (3.9)	526 (7.2)	9 (2.3)	523 (24.4)	10 (2.0)	526 (15.2)	30 (3.8)	526 (10.6)
Singapore	58 (4.1)	608 (9.0)	26 (4.1)	599 (10.9)	12 (2.8)	607 (13.9)	4 (1.6)	592 (17.5)
States								
Connecticut	s 68 (9.8)	529 (11.7)	22 (9.1)	526 (19.7)	7 (4.1)	478 (11.4)	3 (2.9)	522 (4.9)
Idaho	r 74 (7.2)	488 (10.1)	18 (5.5)	515 (13.2)	9 (4.7)	523 (8.1)	0 (0.0)	~ ~
Illinois	71 (7.8)	515 (7.0)	17 (6.9)	521 (9.2)	11 (4.5)	511 (16.5)	1 (0.6)	~ ~
Indiana	84 (7.3)	515 (7.7)	10 (4.5)	483 (7.9)	6 (0.3)	550 (3.6)	0 (0.0)	~ ~
Maryland	r 56 (7.5)	490 (6.2)	15 (5.4)	488 (21.2)	19 (6.5)	472 (19.1)	10 (4.9)	524 (22.4)
Massachusetts	s 78 (7.3)	517 (6.1)	18 (6.5)	521 (18.0)	3 (0.3)	557 (6.9)	0 (0.0)	~ ~
Michigan	s 71 (6.1)	530 (7.3)	19 (5.1)	529 (11.5)	8 (4.1)	512 (20.2)	2 (0.1)	~ ~
Missouri	71 (6.3)	489 (6.5)	16 (5.1)	489 (10.4)	7 (3.6)	510 (17.8)	6 (3.3)	449 (51.5)
North Carolina	r 44 (8.4)	492 (9.9)	37 (7.2)	512 (8.8)	14 (5.9)	474 (8.3)	5 (2.8)	487 (15.0)
Oregon	51 (6.8)	518 (10.5)	39 (6.6)	505 (10.3)	6 (3.5)	542 (12.8)	4 (2.8)	546 (4.2)
Pennsylvania	83 (5.6)	515 (6.6)	12 (4.9)	499 (23.3)	3 (1.9)	509 (34.2)	3 (2.3)	495 (114.3)
South Carolina	34 (7.1)	496 (8.3)	36 (7.7)	505 (17.0)	25 (7.1)	505 (17.9)	5 (3.7)	487 (3.1)
Texas	r 56 (8.5)	539 (7.0)	14 (6.2)	538 (33.3)	20 (6.9)	465 (22.6)	10 (5.5)	488 (12.1)
Districts and Consortia								
Academy School Dist. #20, CO	100 (0.0)	528 (1.8)	0 (0.0)	~ ~	0 (0.0)	~ ~	0 (0.0)	~ ~
Chicago Public Schools, IL	s 58 (11.8)	479 (9.8)	16 (8.9)	444 (10.7)	22 (8.3)	434 (8.8)	4 (4.7)	428 (2.4)
Delaware Science Coalition, DE	r 55 (2.1)	466 (14.2)	24 (1.8)	458 (14.1)	7 (1.8)	447 (24.6)	15 (1.9)	537 (36.7)
First in the World Consort., IL	r 100 (0.0)	557 (7.0)	0 (0.0)	~ ~	0 (0.0)	~ ~	0 (0.0)	~ ~
Fremont/Lincoln/WestSide PS, NE	r 67 (1.5)	481 (10.4)	33 (1.5)	512 (24.7)	0 (0.0)	~ ~	0 (0.0)	~ ~
Guilford County, NC	r 44 (1.2)	519 (9.8)	24 (1.1)	552 (21.4)	23 (0.9)	489 (28.6)	9 (0.4)	451 (24.9)
Jersey City Public Schools, NJ	50 (1.4)	491 (11.0)	15 (1.0)	490 (30.9)	20 (1.0)	450 (6.6)	14 (1.9)	456 (42.5)
Miami-Dade County PS, FL	x x	x x	x x	x x	x x	x x	x x	x x
Michigan Invitational Group, MI	60 (1.6)	535 (9.1)	20 (0.9)	521 (10.3)	15 (1.5)	553 (6.2)	5 (1.2)	497 (12.4)
Montgomery County, MD	s 54 (12.3)	543 (5.5)	13 (9.1)	550 (36.2)	23 (11.9)	524 (6.8)	9 (9.2)	522 (4.9)
Naperville Sch. Dist. #203, IL	79 (1.0)	565 (3.2)	21 (1.0)	583 (5.3)	0 (0.0)	~ ~	0 (0.0)	~ ~
Project SMART Consortium, OH	66 (1.2)	523 (9.6)	15 (1.0)	548 (28.1)	12 (0.7)	483 (7.6)	7 (0.3)	457 (9.8)
Rochester City Sch. Dist., NY	r 55 (1.5)	448 (8.1)	16 (0.5)	436 (18.0)	10 (0.9)	482 (35.2)	19 (1.3)	411 (13.2)
SW Math/Sci. Collaborative, PA	83 (6.0)	527 (6.7)	9 (5.1)	475 (14.8)	6 (3.7)	480 (19.6)	1 (0.1)	~ ~
International Avg. (All Countries)	47 (0.6)	493 (1.4)	20 (0.5)	484 (2.6)	14 (0.5)	478 (2.4)	19 (0.5)	477 (3.0)

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

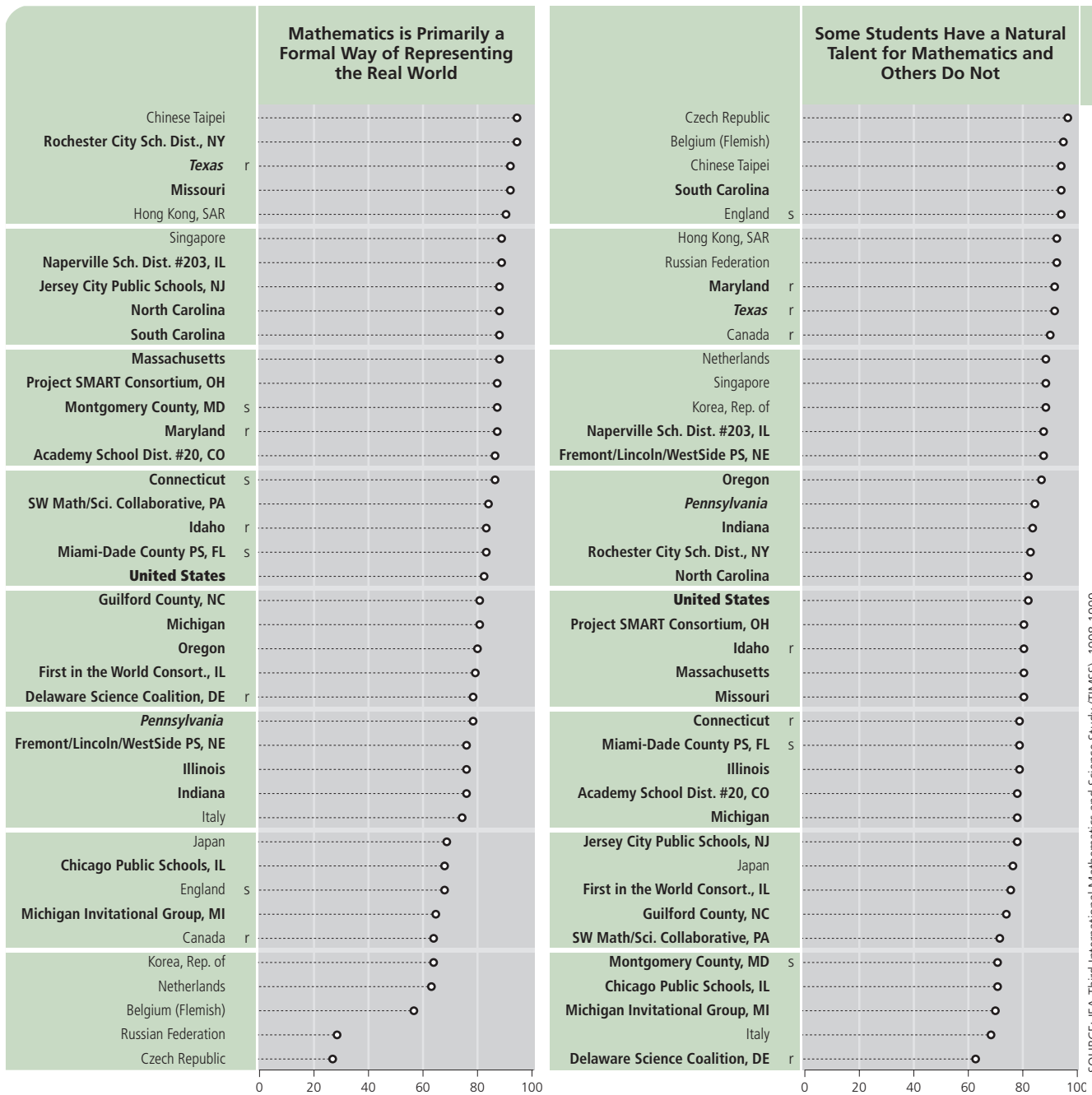
Background data provided by schools.

 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 tilde (~) indicates insufficient data to report achievement.

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.

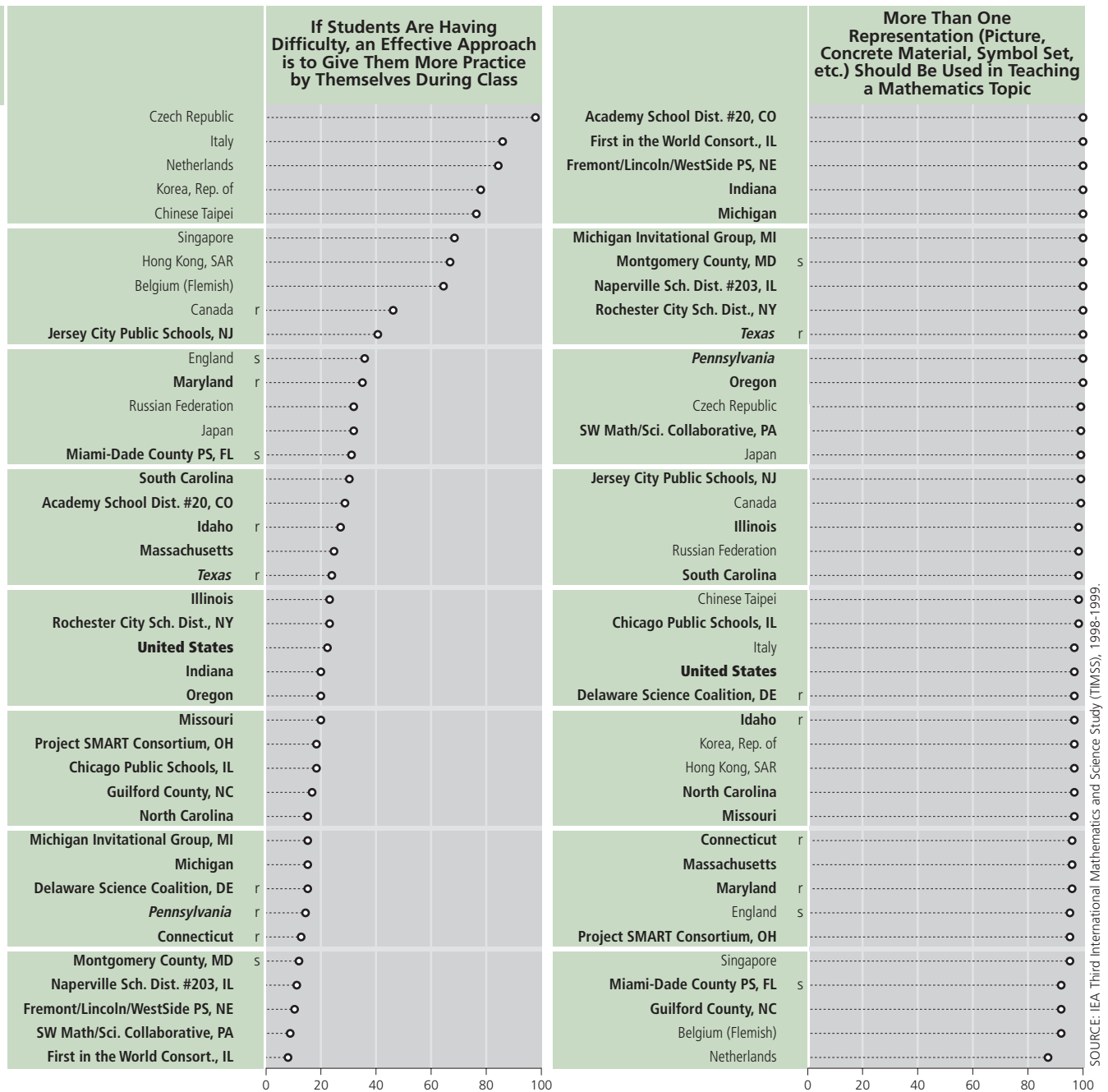


SOURCE: IEA Third International Mathematics and Science Study (TIMSS), 1998-1999.

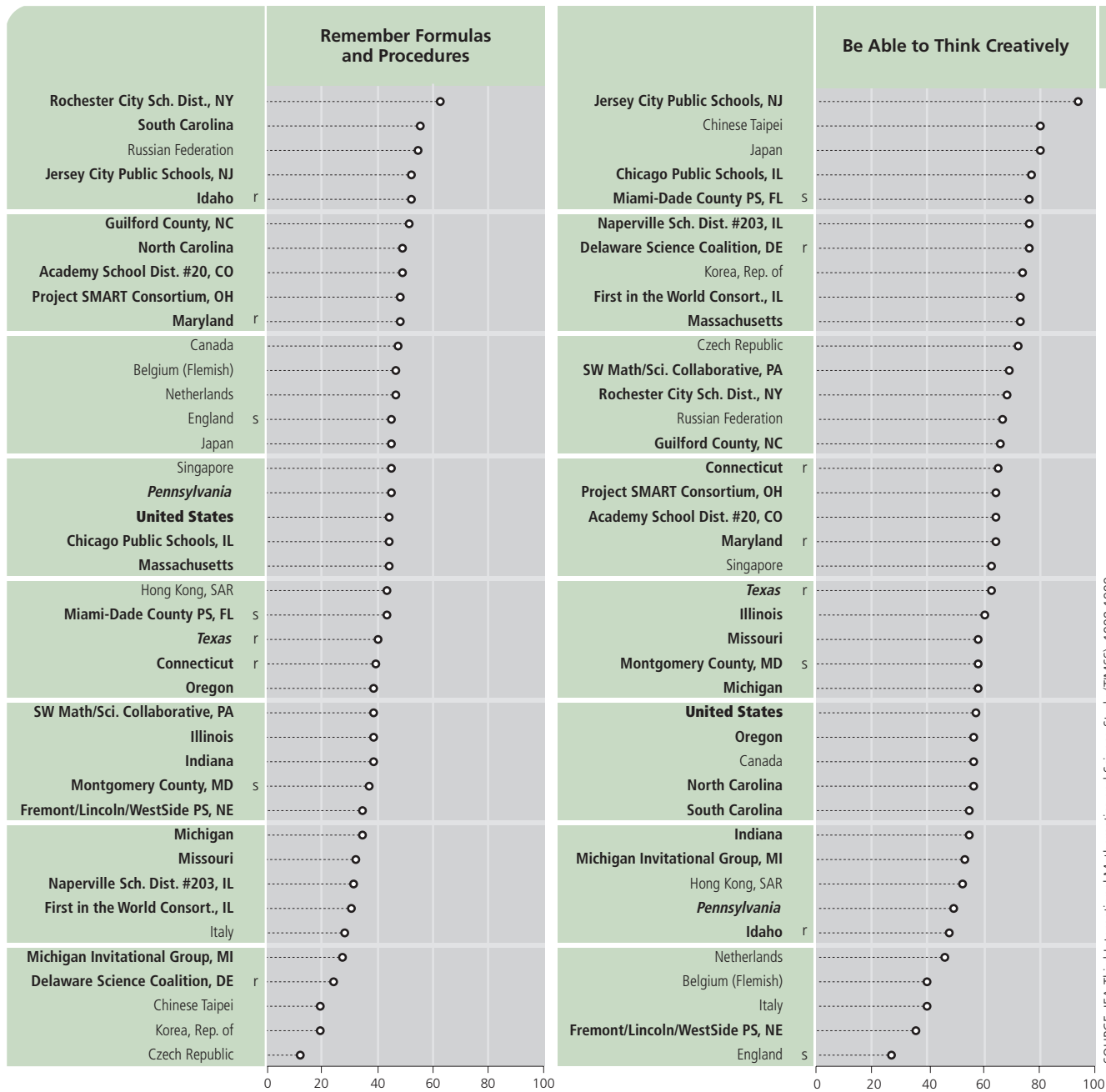
Background data provided by teachers.

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.



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

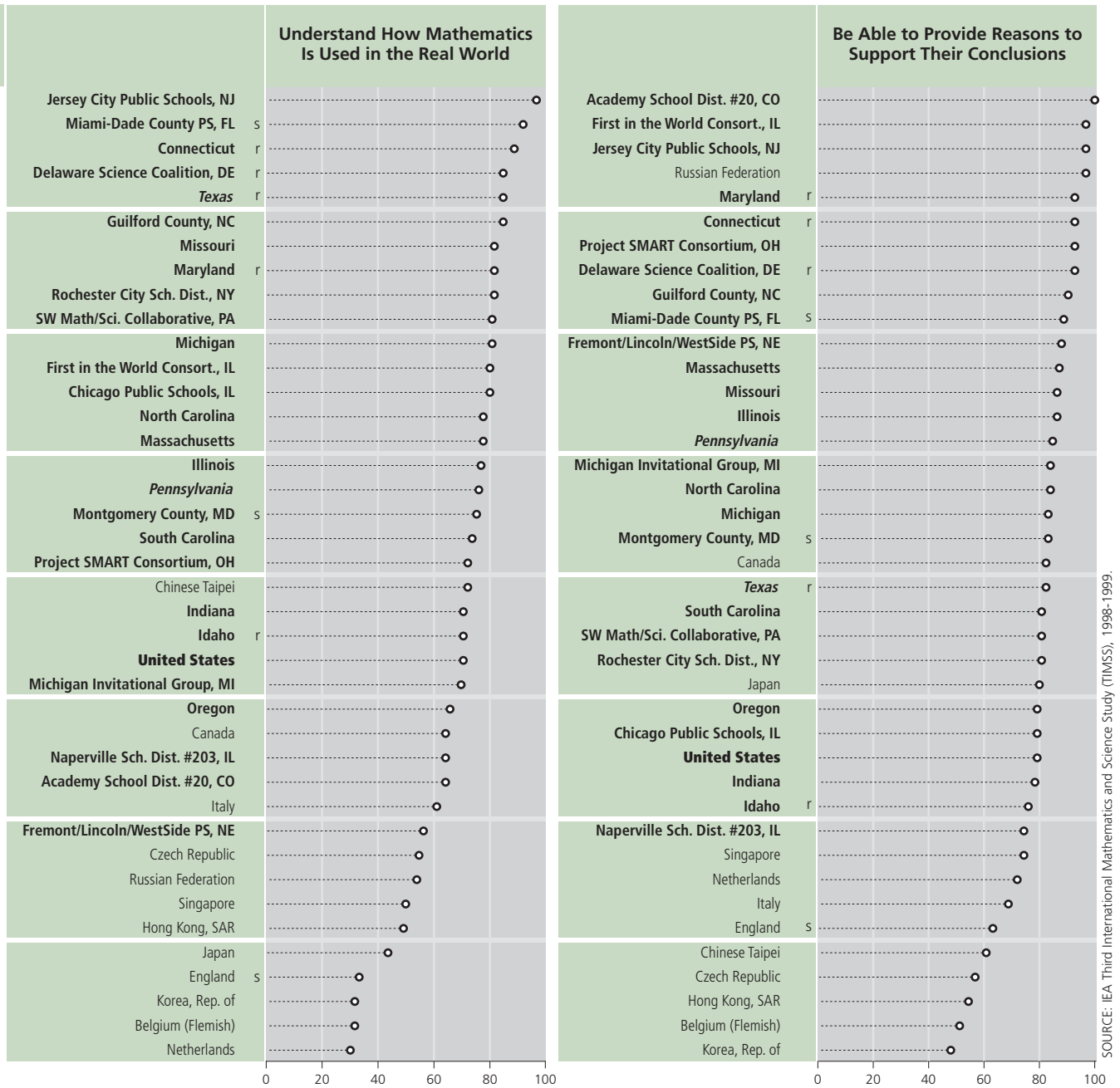


SOURCE: IEA Third International Mathematics and Science Study (TIMSS), 1998-1999.

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.



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

	Percentage of Formally Scheduled School Time Averaged Across Students				
	Teaching Mathematics, Science, and Other Subjects	Teaching Mathematics	Curriculum Planning ¹	Administrative Duties	Other Activities ²
Countries					
United States	75 (1.3)	65 (1.7)	13 (0.8)	2 (0.4)	11 (0.8)
Belgium (Flemish) r	85 (1.1)	r 70 (1.7)	r 3 (0.5)	r 1 (0.3)	r 10 (0.8)
Canada	78 (1.0)	43 (1.3)	7 (0.4)	2 (0.5)	14 (1.0)
Chinese Taipei	55 (2.0)	55 (2.0)	9 (0.9)	4 (0.9)	32 (1.6)
Czech Republic	70 (2.1)	46 (2.1)	12 (1.6)	3 (0.5)	15 (1.0)
England s	87 (0.9)	s 80 (1.3)	s 1 (0.3)	s 2 (0.3)	s 10 (0.8)
Hong Kong, SAR	x x	x x	x x	x x	x x
Italy	87 (1.1)	52 (0.8)	7 (0.8)	0 (0.1)	6 (0.6)
Japan	68 (1.8)	63 (1.9)	7 (0.8)	4 (0.4)	21 (1.4)
Korea, Rep. of	54 (1.3)	54 (1.3)	11 (0.6)	14 (0.8)	21 (0.9)
Netherlands ³ s	88 (0.9)	s 75 (2.6)	--	--	s 12 (0.9)
Russian Federation ⁴	--	--	--	--	--
Singapore	73 (0.8)	55 (1.8)	--	3 (0.3)	24 (0.7)
States					
Connecticut r	68 (1.6)	r 61 (1.8)	r 15 (1.1)	r 3 (0.8)	r 14 (1.6)
Idaho r	78 (1.9)	r 67 (3.4)	r 12 (1.5)	r 1 (0.6)	r 9 (1.2)
Illinois	70 (1.9)	57 (2.3)	16 (1.2)	2 (0.7)	12 (1.4)
Indiana	72 (3.0)	64 (2.8)	16 (1.2)	0 (0.3)	12 (2.8)
Maryland r	72 (1.7)	r 70 (1.8)	r 19 (1.7)	r 2 (0.4)	r 7 (0.8)
Massachusetts	71 (1.7)	67 (1.9)	14 (1.3)	3 (0.8)	12 (1.2)
Michigan	75 (1.7)	60 (2.9)	14 (1.3)	2 (1.2)	9 (1.5)
Missouri	75 (1.7)	69 (2.3)	15 (1.2)	1 (0.5)	9 (1.3)
North Carolina	63 (1.7)	54 (2.6)	21 (1.0)	2 (0.4)	15 (1.9)
Oregon	81 (1.3)	64 (1.7)	12 (1.0)	0 (0.1)	8 (1.2)
<i>Pennsylvania</i>	71 (2.0)	61 (1.7)	11 (1.0)	2 (0.5)	17 (1.7)
South Carolina	68 (2.4)	65 (2.5)	19 (1.7)	r 1 (0.4)	12 (1.5)
Texas r	66 (2.8)	r 59 (2.5)	r 16 (1.4)	r 3 (0.9)	r 16 (2.3)
Districts and Consortia					
Academy School Dist. #20, CO	70 (0.1)	50 (0.1)	22 (0.1)	1 (0.0)	8 (0.1)
Chicago Public Schools, IL	81 (1.6)	50 (3.6)	r 12 (1.5)	3 (1.0)	5 (1.2)
Delaware Science Coalition, DE r	72 (1.7)	r 63 (2.0)	r 19 (1.0)	r 1 (0.1)	r 8 (1.0)
First in the World Consort., IL	68 (1.3)	62 (3.0)	21 (1.1)	2 (0.4)	9 (1.1)
Fremont/Lincoln/WestSide PS, NE	72 (0.9)	71 (1.3)	24 (1.1)	0 (0.2)	4 (0.3)
Guilford County, NC	58 (1.9)	48 (2.1)	23 (1.4)	3 (0.6)	16 (1.4)
Jersey City Public Schools, NJ r	81 (1.0)	r 69 (1.6)	r 12 (0.8)	r 0 (0.0)	r 7 (0.5)
Miami-Dade County PS, FL s	77 (3.3)	s 74 (3.2)	s 12 (2.2)	s 1 (0.4)	s 11 (2.3)
Michigan Invitational Group, MI	78 (1.4)	67 (2.0)	11 (1.4)	2 (0.7)	10 (1.3)
Montgomery County, MD s	63 (2.9)	s 61 (3.0)	s 19 (3.1)	s 7 (1.0)	s 11 (1.4)
Naperville Sch. Dist. #203, IL	64 (0.8)	50 (1.1)	15 (0.8)	2 (0.4)	19 (0.4)
Project SMART Consortium, OH	70 (1.5)	67 (1.7)	15 (1.4)	0 (0.3)	15 (1.1)
Rochester City Sch. Dist., NY	66 (0.9)	64 (1.2)	13 (0.8)	9 (0.6)	12 (0.8)
SW Math/Sci. Collaborative, PA	69 (2.5)	63 (2.8)	8 (1.3)	3 (0.8)	20 (1.8)
International Avg. (All Countries)	71 (0.3)	60 (0.3)	9 (0.2)	4 (0.1)	16 (0.2)

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

Background data provided by teachers.

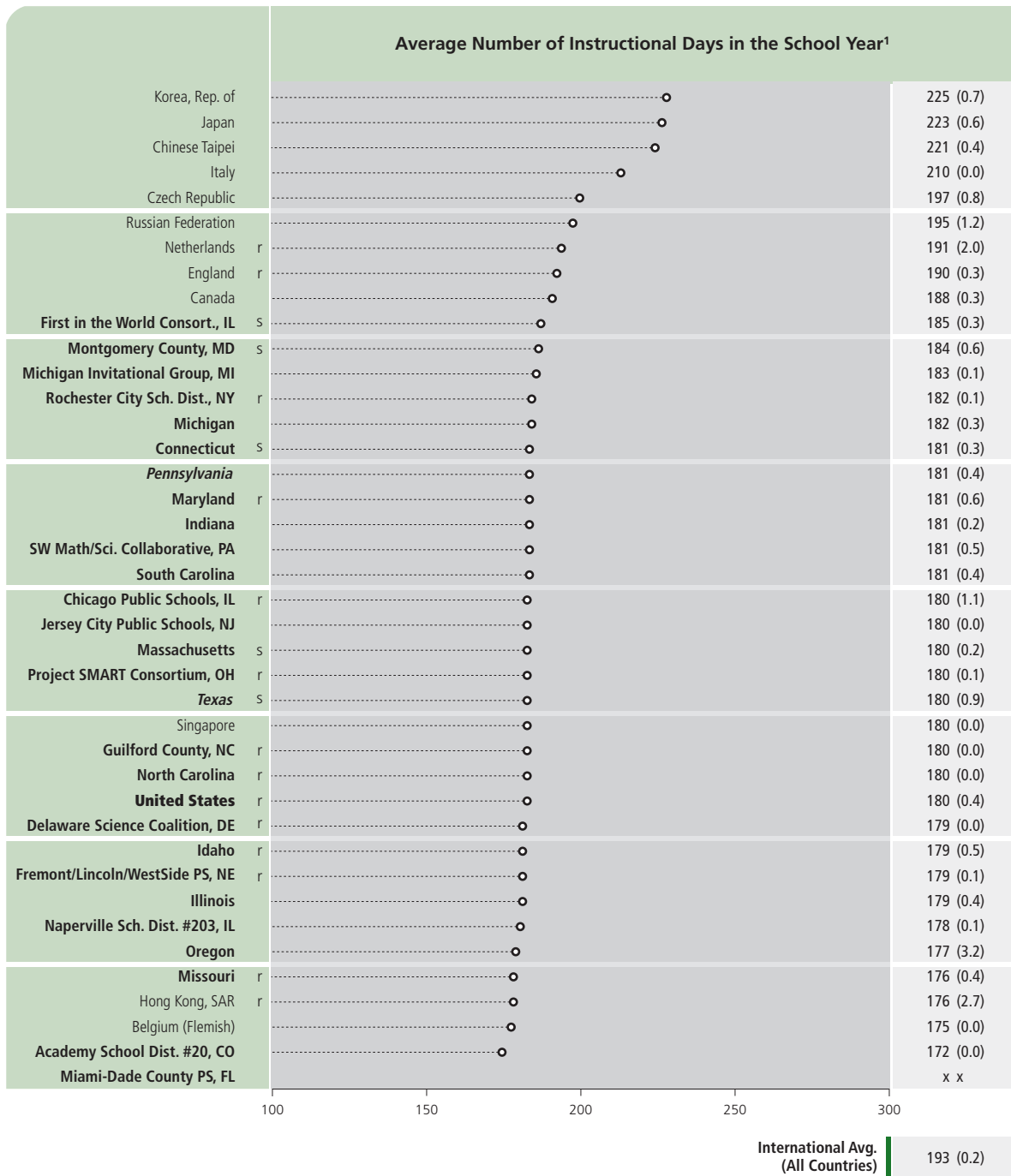
- Includes individual curriculum planning and cooperative curriculum planning.
- Includes student supervision (other than teaching), student counseling/appraisal, other non-student contact time, and other activities.
- Netherlands: Data in other activities category reflects the total reported for curriculum planning, administrative duties, and other activities.
- 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 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 Equations to Represent Relationships	Practice Computational Skills
Countries					
United States	72 (3.1)	24 (2.6)	19 (2.6)	54 (2.8)	66 (3.7)
Belgium (Flemish)	67 (3.5)	2 (0.8)	5 (3.1)	12 (2.0)	76 (2.7)
Canada	76 (2.7)	20 (2.6)	18 (2.8)	44 (2.8)	64 (3.3)
Chinese Taipei	54 (4.1)	39 (4.4)	11 (2.1)	57 (4.2)	54 (4.5)
Czech Republic	94 (2.6)	21 (4.0)	22 (4.2)	69 (5.4)	81 (4.4)
England	s 70 (3.0)	s 13 (2.7)	s 6 (2.1)	s 22 (3.4)	52 (3.6)
Hong Kong, SAR	33 (4.1)	17 (3.5)	18 (3.5)	60 (3.5)	78 (3.1)
Italy	84 (3.0)	44 (3.8)	45 (3.6)	30 (3.4)	65 (3.4)
Japan	82 (3.2)	62 (4.1)	41 (4.4)	80 (3.0)	62 (4.5)
Korea, Rep. of	65 (3.2)	38 (4.0)	28 (3.5)	65 (3.9)	55 (4.3)
Netherlands	65 (5.6)	28 (5.6)	33 (6.4)	23 (5.4)	40 (4.8)
Russian Federation	84 (3.3)	11 (2.5)	13 (2.9)	40 (3.7)	88 (2.3)
Singapore	44 (4.9)	14 (3.2)	15 (3.4)	29 (3.8)	51 (4.4)
States					
Connecticut	r 83 (6.5)	r 24 (6.4)	r 18 (4.7)	r 59 (7.3)	r 50 (7.6)
Idaho	r 56 (6.9)	r 14 (5.0)	r 23 (6.7)	r 54 (6.2)	r 84 (4.3)
Illinois	67 (6.3)	14 (3.4)	13 (2.8)	38 (5.2)	58 (6.2)
Indiana	73 (5.8)	16 (3.6)	16 (4.1)	58 (6.6)	75 (5.4)
Maryland	r 72 (4.7)	r 32 (5.6)	r 25 (4.9)	r 46 (6.2)	r 59 (5.5)
Massachusetts	79 (5.2)	25 (5.2)	23 (4.7)	52 (6.0)	64 (5.4)
Michigan	70 (5.7)	26 (5.5)	29 (6.7)	56 (5.0)	68 (4.7)
Missouri	50 (6.1)	14 (4.0)	14 (4.2)	45 (6.1)	85 (4.7)
North Carolina	76 (5.1)	19 (4.3)	22 (5.8)	37 (6.2)	63 (5.7)
Oregon	58 (6.1)	16 (4.5)	11 (3.3)	40 (6.4)	63 (5.9)
<i>Pennsylvania</i>	80 (4.0)	15 (5.3)	11 (2.8)	57 (6.2)	64 (3.5)
South Carolina	73 (4.7)	23 (4.7)	20 (4.0)	49 (6.3)	81 (5.2)
Texas	71 (6.0)	33 (7.2)	28 (6.9)	52 (7.8)	77 (5.7)
Districts and Consortia					
Academy School Dist. #20, CO	81 (0.3)	20 (0.3)	21 (0.4)	71 (0.4)	62 (0.4)
Chicago Public Schools, IL	79 (8.3)	20 (8.1)	10 (5.1)	25 (10.1)	62 (11.7)
Delaware Science Coalition, DE	r 84 (5.9)	r 35 (5.9)	r 9 (3.4)	r 41 (7.7)	r 35 (6.4)
First in the World Consort., IL	87 (3.2)	40 (5.4)	44 (8.5)	66 (9.6)	37 (7.4)
Fremont/Lincoln/WestSide PS, NE	r 74 (8.7)	r 14 (1.2)	r 8 (7.0)	r 50 (7.4)	r 86 (7.2)
Guilford County, NC	81 (5.4)	29 (6.5)	25 (5.5)	49 (6.7)	61 (6.8)
Jersey City Public Schools, NJ	r 96 (2.5)	r 62 (6.7)	r 51 (6.8)	r 60 (6.1)	r 57 (6.4)
Miami-Dade County PS, FL	s 85 (5.8)	s 36 (10.8)	s 21 (7.8)	s 41 (8.1)	73 (8.8)
Michigan Invitational Group, MI	91 (2.8)	49 (8.3)	48 (6.8)	64 (8.7)	51 (7.8)
Montgomery County, MD	s 79 (5.0)	s 18 (6.0)	s 19 (8.3)	s 52 (4.1)	63 (8.0)
Naperville Sch. Dist. #203, IL	76 (2.5)	35 (5.2)	19 (4.1)	90 (1.9)	51 (4.3)
Project SMART Consortium, OH	86 (4.3)	8 (3.8)	15 (4.4)	48 (5.1)	73 (6.0)
Rochester City Sch. Dist., NY	69 (4.1)	8 (2.3)	8 (2.7)	57 (4.3)	47 (5.0)
SW Math/Sci. Collaborative, PA	77 (5.2)	27 (6.9)	10 (4.0)	52 (5.9)	54 (7.7)
International Avg. (All Countries)	70 (0.6)	26 (0.6)	21 (0.6)	43 (0.6)	73 (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.



Exhibit R3.8 Students Using Things from Everyday Life in Solving Mathematics Problems

8th Grade Mathematics

	Almost Always		Pretty Often		Once in a While		Never	
	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement
Countries								
United States	23 (0.9)	489 (5.1)	31 (0.8)	509 (3.8)	34 (0.7)	515 (4.1)	12 (0.7)	493 (6.8)
Belgium (Flemish)	7 (0.7)	531 (13.8)	20 (0.8)	560 (4.4)	47 (1.1)	567 (4.0)	27 (1.1)	552 (4.8)
Canada	19 (0.7)	518 (3.6)	33 (0.8)	534 (4.3)	36 (0.9)	536 (2.7)	11 (0.7)	531 (4.6)
Chinese Taipei	11 (0.5)	596 (6.2)	31 (0.8)	600 (4.0)	43 (0.8)	590 (4.4)	15 (0.7)	540 (6.5)
Czech Republic	11 (0.9)	522 (8.1)	36 (1.4)	530 (4.2)	37 (1.5)	519 (5.0)	16 (1.2)	499 (8.3)
England	14 (0.8)	486 (6.3)	41 (1.3)	499 (5.2)	34 (1.0)	505 (4.9)	11 (0.8)	489 (8.2)
Hong Kong, SAR	6 (0.3)	573 (8.0)	24 (0.8)	583 (6.5)	56 (0.9)	587 (4.0)	15 (0.7)	570 (6.1)
Italy	10 (0.6)	456 (7.7)	19 (0.8)	494 (6.2)	38 (1.0)	489 (4.0)	33 (1.2)	471 (4.5)
Japan	2 (0.2)	~ ~	17 (0.7)	590 (3.5)	55 (0.8)	583 (2.1)	27 (1.0)	564 (3.3)
Korea, Rep. of	3 (0.3)	580 (7.5)	12 (0.6)	602 (3.2)	47 (0.8)	595 (2.3)	37 (0.8)	573 (2.7)
Netherlands	7 (0.6)	544 (10.2)	20 (0.9)	549 (8.5)	49 (1.6)	542 (8.1)	23 (1.5)	530 (8.4)
Russian Federation	14 (0.8)	506 (6.7)	23 (1.2)	538 (8.3)	46 (1.4)	533 (6.0)	17 (0.9)	521 (6.3)
Singapore	16 (0.8)	578 (7.8)	34 (0.9)	606 (6.9)	36 (1.1)	617 (6.3)	14 (0.8)	599 (6.1)
States								
Connecticut	24 (1.3)	497 (7.9)	33 (1.4)	518 (10.1)	32 (1.1)	525 (9.6)	11 (1.7)	508 (15.3)
Idaho	24 (1.4)	480 (9.7)	29 (1.3)	498 (8.1)	36 (1.9)	508 (6.7)	12 (1.2)	481 (8.7)
Illinois	22 (1.5)	487 (8.9)	33 (1.2)	513 (7.4)	35 (1.5)	525 (6.9)	10 (1.1)	500 (8.0)
Indiana	23 (1.7)	497 (8.2)	29 (2.0)	518 (8.5)	36 (1.9)	528 (7.5)	12 (1.4)	515 (11.9)
Maryland	26 (1.0)	484 (6.1)	36 (1.3)	507 (6.3)	27 (1.0)	506 (6.9)	11 (0.8)	480 (8.9)
Massachusetts	20 (1.2)	497 (8.0)	34 (1.4)	518 (6.5)	35 (1.3)	519 (6.0)	12 (1.0)	517 (10.0)
Michigan	23 (1.3)	508 (8.5)	33 (1.6)	527 (7.2)	33 (1.4)	527 (7.4)	11 (1.0)	496 (10.2)
Missouri	26 (1.5)	480 (6.4)	30 (1.8)	491 (6.3)	32 (1.7)	500 (5.3)	11 (1.0)	483 (12.2)
North Carolina	29 (1.3)	477 (6.2)	33 (1.5)	501 (9.4)	29 (1.2)	511 (7.9)	9 (1.0)	492 (7.7)
Oregon	20 (1.1)	500 (7.6)	32 (1.3)	521 (6.2)	37 (1.4)	526 (5.9)	11 (1.1)	496 (10.1)
Pennsylvania	20 (0.9)	484 (7.1)	32 (1.1)	514 (5.7)	36 (1.3)	521 (7.0)	13 (0.8)	499 (9.5)
South Carolina	23 (1.5)	478 (7.2)	32 (1.3)	505 (8.8)	33 (1.5)	519 (7.8)	12 (1.4)	500 (11.5)
Texas	21 (1.5)	497 (13.4)	31 (1.1)	527 (9.4)	36 (1.5)	536 (7.7)	13 (1.1)	503 (13.8)
Districts and Consortia								
Academy School Dist. #20, CO	25 (0.9)	520 (4.1)	36 (1.3)	531 (3.0)	32 (1.3)	544 (3.9)	8 (0.8)	493 (9.4)
Chicago Public Schools, IL	21 (1.9)	454 (8.9)	30 (1.5)	465 (7.3)	36 (2.3)	472 (6.8)	14 (1.8)	452 (7.4)
Delaware Science Coalition, DE	23 (1.4)	471 (10.8)	32 (2.1)	489 (10.5)	34 (1.3)	496 (10.0)	12 (1.9)	468 (12.3)
First in the World Consort., IL	17 (1.7)	526 (11.4)	31 (1.3)	551 (6.0)	42 (1.5)	576 (6.9)	10 (1.1)	572 (14.2)
Fremont/Lincoln/WestSide PS, NE	26 (2.5)	465 (10.7)	36 (2.2)	493 (9.0)	28 (1.9)	514 (9.6)	10 (1.4)	474 (20.3)
Guilford County, NC	19 (1.6)	481 (8.8)	30 (1.5)	515 (8.6)	40 (1.9)	531 (8.4)	11 (1.1)	507 (12.2)
Jersey City Public Schools, NJ	39 (1.5)	467 (10.9)	35 (1.8)	482 (10.8)	22 (1.8)	491 (7.7)	4 (0.5)	449 (21.4)
Miami-Dade County PS, FL	27 (1.8)	401 (13.8)	26 (1.9)	427 (9.5)	29 (2.0)	442 (11.2)	18 (2.2)	434 (7.6)
Michigan Invitational Group, MI	23 (1.8)	525 (7.8)	38 (2.2)	534 (7.2)	31 (1.9)	539 (8.5)	8 (0.8)	526 (13.1)
Montgomery County, MD	19 (1.2)	514 (8.6)	35 (1.7)	541 (6.0)	37 (1.5)	550 (4.9)	9 (1.2)	527 (11.9)
Naperville Sch. Dist. #203, IL	28 (1.8)	555 (4.4)	32 (1.5)	570 (3.5)	33 (1.6)	583 (5.3)	7 (0.7)	567 (10.2)
Project SMART Consortium, OH	21 (1.7)	507 (8.3)	32 (1.6)	518 (7.3)	35 (2.2)	538 (9.4)	12 (1.4)	507 (12.1)
Rochester City Sch. Dist., NY ^r	30 (1.8)	439 (7.6)	27 (2.1)	460 (9.2)	27 (1.6)	474 (9.3)	17 (1.5)	441 (12.7)
SW Math/Sci. Collaborative, PA	19 (1.3)	503 (6.2)	32 (1.8)	523 (9.0)	37 (2.2)	526 (8.3)	13 (1.5)	502 (11.8)
International Avg. (All Countries)	15 (0.1)	474 (1.4)	26 (0.2)	493 (0.9)	39 (0.2)	497 (0.9)	19 (0.2)	478 (1.0)

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

Background data provided by students.

A tilde (~) indicates insufficient data to report achievement.

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

An "r" indicates a 70-84% student response rate.

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

	Almost Always		Pretty Often		Once in a While		Never	
	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement
Countries								
United States	42 (2.3)	516 (5.1)	28 (1.1)	506 (4.6)	22 (1.5)	493 (4.8)	8 (1.2)	471 (7.4)
Belgium (Flemish)	16 (1.3)	553 (6.4)	30 (1.6)	567 (6.0)	49 (2.1)	560 (4.5)	5 (1.2)	529 (11.0)
Canada	44 (1.9)	532 (3.2)	35 (1.2)	535 (3.0)	17 (1.5)	523 (4.1)	3 (0.9)	523 (14.8)
Chinese Taipei	2 (0.2)	~ ~	7 (0.4)	543 (7.9)	45 (1.0)	591 (4.0)	46 (1.1)	591 (5.0)
Czech Republic	14 (2.1)	520 (7.5)	27 (1.7)	530 (6.8)	48 (2.5)	518 (4.6)	12 (2.0)	507 (8.0)
England	30 (1.6)	518 (6.5)	53 (1.4)	500 (4.3)	16 (1.1)	460 (5.9)	1 (0.3)	~ ~
Hong Kong, SAR	26 (1.4)	591 (5.0)	51 (1.0)	582 (4.5)	21 (1.4)	575 (5.2)	2 (0.5)	~ ~
Italy	35 (1.9)	485 (4.4)	22 (0.9)	483 (5.3)	26 (1.5)	477 (5.6)	16 (1.7)	473 (7.6)
Japan	0 (0.1)	~ ~	3 (0.4)	545 (8.2)	28 (2.1)	580 (3.7)	68 (2.3)	580 (2.4)
Korea, Rep. of	0 (0.1)	~ ~	1 (0.2)	~ ~	13 (0.5)	574 (5.1)	86 (0.7)	590 (2.3)
Netherlands	67 (2.0)	547 (6.5)	29 (1.6)	533 (9.5)	4 (0.6)	494 (16.4)	0 (0.1)	~ ~
Russian Federation	16 (1.2)	508 (8.7)	19 (1.0)	528 (8.4)	47 (1.3)	533 (6.3)	18 (1.7)	532 (7.6)
Singapore	36 (1.5)	610 (7.4)	50 (1.0)	610 (6.1)	14 (1.2)	572 (6.5)	1 (0.2)	~ ~
States								
Connecticut	43 (3.1)	525 (9.9)	34 (2.3)	516 (8.5)	18 (3.0)	497 (13.7)	5 (1.0)	463 (23.5)
Idaho	38 (5.3)	496 (8.2)	28 (1.8)	501 (9.6)	25 (3.2)	496 (8.5)	9 (3.0)	471 (11.8)
Illinois	48 (3.8)	526 (7.0)	25 (1.9)	517 (6.3)	20 (2.2)	482 (7.3)	7 (2.8)	451 (14.5)
Indiana	33 (3.8)	522 (9.9)	29 (1.9)	523 (7.8)	30 (3.2)	512 (8.0)	8 (1.9)	478 (12.2)
Maryland	42 (3.6)	510 (5.2)	32 (1.6)	501 (7.3)	21 (2.6)	482 (9.3)	5 (1.3)	447 (16.9)
Massachusetts	37 (4.0)	519 (8.9)	32 (1.7)	512 (5.1)	25 (3.0)	515 (6.8)	6 (1.5)	491 (21.6)
Michigan	51 (3.1)	527 (5.9)	29 (2.3)	518 (9.1)	16 (2.0)	509 (10.5)	5 (1.3)	475 (15.3)
Missouri	55 (3.2)	500 (6.3)	24 (1.8)	487 (5.4)	13 (2.3)	473 (12.9)	8 (2.0)	468 (20.4)
North Carolina	54 (3.5)	494 (7.0)	31 (1.8)	498 (8.2)	11 (1.8)	493 (12.8)	4 (2.0)	516 (28.8)
Oregon	60 (2.8)	525 (6.3)	30 (1.9)	509 (6.1)	9 (1.4)	489 (10.7)	2 (0.4)	~ ~
Pennsylvania	38 (2.5)	516 (7.8)	31 (3.6)	513 (8.2)	22 (2.2)	498 (8.2)	9 (4.0)	491 (6.0)
South Carolina	25 (2.7)	518 (13.4)	30 (2.1)	506 (8.7)	36 (2.6)	502 (8.6)	9 (2.1)	452 (17.4)
Texas	23 (2.8)	545 (10.2)	24 (2.2)	535 (12.0)	39 (2.5)	508 (9.4)	14 (2.4)	492 (15.3)
Districts and Consortia								
Academy School Dist. #20, CO	68 (1.3)	542 (2.0)	22 (1.2)	520 (4.2)	6 (0.7)	466 (8.5)	4 (0.5)	447 (10.9)
Chicago Public Schools, IL	13 (2.9)	458 (11.6)	25 (3.0)	471 (7.0)	52 (2.8)	467 (7.2)	10 (3.0)	432 (7.3)
Delaware Science Coalition, DE	32 (3.0)	482 (13.8)	35 (1.9)	491 (7.9)	29 (2.2)	486 (12.3)	5 (1.4)	462 (22.4)
First in the World Consort., IL	56 (2.7)	568 (7.1)	32 (2.5)	555 (7.6)	10 (1.5)	538 (10.2)	2 (0.8)	~ ~
Fremont/Lincoln/WestSide PS, NE	46 (2.8)	491 (12.3)	36 (2.2)	494 (8.5)	14 (2.1)	480 (7.7)	4 (1.7)	448 (15.8)
Guilford County, NC	46 (3.4)	509 (9.3)	34 (1.9)	518 (10.4)	17 (2.7)	528 (12.0)	3 (1.3)	479 (14.1)
Jersey City Public Schools, NJ	68 (2.5)	484 (9.8)	25 (1.9)	470 (8.4)	6 (1.0)	438 (12.1)	1 (0.3)	~ ~
Miami-Dade County PS, FL	23 (3.5)	416 (16.0)	26 (2.6)	422 (11.7)	36 (2.8)	434 (8.9)	16 (3.8)	427 (12.6)
Michigan Invitational Group, MI	62 (3.0)	539 (5.6)	28 (2.2)	526 (8.2)	7 (1.6)	526 (17.4)	3 (1.3)	485 (13.0)
Montgomery County, MD	54 (3.4)	550 (5.5)	36 (2.8)	530 (5.9)	7 (1.9)	517 (12.1)	2 (0.5)	~ ~
Naperville Sch. Dist. #203, IL	71 (1.3)	571 (3.5)	21 (1.4)	573 (3.8)	7 (0.6)	555 (15.6)	1 (0.3)	~ ~
Project SMART Consortium, OH	26 (2.2)	541 (13.4)	32 (2.1)	529 (9.3)	29 (3.0)	512 (8.7)	13 (2.0)	485 (9.8)
Rochester City Sch. Dist., NY	21 (3.3)	444 (16.2)	20 (1.9)	456 (12.6)	35 (2.4)	472 (7.4)	24 (2.4)	440 (9.4)
SW Math/Sci. Collaborative, PA	45 (5.0)	525 (6.9)	29 (3.2)	518 (9.3)	23 (3.9)	506 (11.5)	3 (1.3)	488 (23.8)
International Avg. (All Countries)	19 (0.2)	469 (2.0)	20 (0.2)	482 (1.1)	29 (0.2)	488 (1.2)	32 (0.3)	476 (2.2)

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

Background data provided by students.

* The use of calculators on TIMSS was not allowed in 1995 or in 1999.

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 tilde (~) indicates insufficient data to report achievement.

An "r" indicates a 70-84% student response rate.

	Percentage of Students					
	Never or Hardly Ever Use Calculators	Ways in Which Students Use Calculators At Least Once or Twice a Week				
		Checking Answers	Tests and Exams	Routine Computations	Solving Complex Problems	Exploring Number Concepts
Countries						
United States	5 (1.2)	69 (3.5)	45 (3.2)	62 (3.9)	75 (3.2)	59 (3.2)
Belgium (Flemish)	7 (2.5)	55 (4.6)	34 (3.5)	45 (4.7)	53 (4.5)	27 (4.0)
Canada	3 (1.0)	82 (2.3)	58 (2.9)	r 80 (2.8)	91 (1.8)	r 69 (3.0)
Chinese Taipei	55 (4.6)	5 (1.7)	2 (1.0)	9 (2.5)	9 (2.5)	8 (2.3)
Czech Republic	5 (2.3)	60 (4.9)	18 (3.6)	49 (4.9)	60 (5.0)	22 (4.6)
England	0 (0.4)	s 74 (3.6)	s 32 (3.4)	s 76 (3.0)	s 72 (3.8)	s 41 (4.1)
Hong Kong, SAR	1 (0.9)	85 (2.8)	58 (4.2)	88 (2.8)	74 (3.6)	39 (3.9)
Italy	13 (2.1)	66 (2.8)	14 (2.8)	58 (3.2)	68 (3.4)	21 (3.3)
Japan	81 (3.3)	0 (0.0)	1 (0.7)	5 (2.0)	4 (1.7)	1 (1.0)
Korea, Rep. of	72 (3.4)	1 (0.9)	1 (0.9)	2 (1.2)	5 (1.7)	2 (1.2)
Netherlands	1 (0.1)	91 (2.9)	68 (5.4)	97 (1.8)	90 (3.0)	65 (6.3)
Russian Federation	14 (2.7)	58 (3.9)	3 (1.3)	47 (4.4)	46 (3.8)	15 (3.0)
Singapore	0 (0.0)	88 (3.0)	61 (4.5)	85 (3.5)	93 (2.5)	67 (3.9)
States						
Connecticut	5 (1.8)	r 77 (5.3)	r 64 (6.4)	r 70 (6.2)	r 86 (4.7)	r 75 (5.8)
Idaho	8 (4.0)	r 66 (7.3)	r 32 (5.0)	r 49 (6.9)	r 74 (6.3)	r 51 (6.6)
Illinois	7 (4.0)	80 (5.3)	43 (6.6)	72 (5.1)	81 (5.2)	68 (5.8)
Indiana	5 (2.5)	69 (5.2)	22 (5.5)	57 (6.1)	69 (5.9)	52 (7.5)
Maryland	1 (0.8)	r 67 (5.8)	r 55 (5.3)	r 70 (6.4)	r 77 (5.6)	r 67 (5.9)
Massachusetts	4 (1.9)	70 (5.5)	52 (6.1)	62 (6.2)	72 (5.7)	65 (6.5)
Michigan	1 (0.9)	74 (4.8)	55 (6.5)	80 (4.6)	89 (3.1)	77 (4.4)
Missouri	5 (3.0)	77 (5.2)	49 (5.7)	74 (4.7)	78 (4.3)	69 (4.9)
North Carolina	1 (0.7)	69 (6.2)	63 (5.3)	72 (4.8)	85 (3.2)	78 (3.8)
Oregon	0 (0.3)	91 (2.8)	52 (6.9)	85 (2.8)	87 (3.4)	71 (5.2)
<i>Pennsylvania</i>	12 (5.6)	70 (6.8)	48 (8.0)	64 (7.2)	69 (7.4)	53 (7.5)
South Carolina	16 (4.7)	48 (6.2)	27 (6.1)	45 (6.1)	56 (6.4)	45 (6.9)
<i>Texas</i>	11 (4.7)	43 (6.1)	28 (4.9)	37 (6.1)	51 (6.2)	40 (5.7)
Districts and Consortia						
Academy School Dist. #20, CO	1 (0.2)	92 (0.2)	77 (0.3)	81 (0.3)	95 (0.3)	83 (0.3)
Chicago Public Schools, IL	14 (7.8)	57 (9.4)	13 (7.5)	47 (8.3)	62 (8.6)	45 (11.4)
Delaware Science Coalition, DE	4 (2.9)	r 63 (6.4)	r 44 (4.9)	r 55 (6.4)	r 72 (5.2)	r 57 (6.1)
First in the World Consort., IL	0 (0.0)	95 (3.2)	69 (9.0)	76 (3.6)	94 (3.9)	93 (3.9)
Fremont/Lincoln/WestSide PS, NE	0 (0.0)	63 (7.4)	44 (5.7)	77 (6.9)	90 (3.3)	66 (1.3)
Guilford County, NC	2 (0.6)	62 (7.4)	51 (7.2)	55 (6.9)	80 (6.3)	59 (8.0)
Jersey City Public Schools, NJ	0 (0.0)	96 (0.5)	89 (1.9)	93 (1.9)	96 (0.5)	97 (2.9)
Miami-Dade County PS, FL	7 (4.8)	s 71 (9.4)	s 39 (10.9)	s 59 (10.0)	s 77 (9.0)	s 60 (12.5)
Michigan Invitational Group, MI	2 (0.0)	89 (4.9)	80 (5.7)	83 (4.6)	96 (2.9)	90 (4.0)
Montgomery County, MD	0 (0.0)	s 86 (3.0)	s 75 (5.7)	s 91 (4.0)	s 96 (3.1)	s 87 (5.0)
Naperville Sch. Dist. #203, IL	0 (0.0)	100 (0.0)	93 (0.8)	90 (2.5)	99 (0.6)	90 (3.2)
Project SMART Consortium, OH	14 (4.3)	60 (4.4)	33 (4.7)	47 (4.1)	60 (4.5)	49 (4.8)
Rochester City Sch. Dist., NY	20 (4.0)	34 (4.4)	13 (4.5)	39 (4.8)	34 (4.5)	26 (4.3)
SW Math/Sci. Collaborative, PA	1 (1.0)	78 (4.9)	66 (7.2)	71 (6.7)	82 (5.3)	64 (7.9)
International Avg. (All Countries)	28 (0.5)	44 (0.6)	20 (0.4)	43 (0.6)	43 (0.6)	26 (0.5)

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

Background data provided by teachers.

* The use of calculators on TIMSS was not allowed in 1995 or in 1999.

 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.

	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	63 (2.8)	27 (2.4)	7 (1.6)	1 (0.6)	1 (0.7)	0 (0.0)	1 (0.7)
Belgium (Flemish)	15 (2.7)	2 (0.9)	48 (4.9)	9 (2.0)	18 (3.3)	3 (1.2)	5 (3.2)
Canada	58 (3.5)	16 (2.6)	22 (2.8)	3 (1.5)	1 (0.7)	0 (0.0)	0 (0.0)
Chinese Taipei	21 (3.1)	25 (3.6)	27 (3.4)	23 (3.4)	2 (1.1)	2 (1.1)	0 (0.0)
Czech Republic	15 (3.7)	0 (0.2)	69 (5.1)	2 (1.3)	13 (3.8)	0 (0.0)	0 (0.0)
England	3 (1.4)	1 (0.6)	48 (3.9)	46 (4.1)	2 (0.8)	1 (0.3)	0 (0.0)
Hong Kong, SAR	30 (4.0)	19 (3.1)	26 (3.1)	23 (3.7)	2 (1.2)	1 (0.0)	0 (0.0)
Italy	15 (2.6)	68 (3.8)	5 (1.7)	12 (2.5)	0 (0.0)	0 (0.0)	0 (0.0)
Japan	14 (2.7)	3 (1.4)	27 (4.0)	8 (2.1)	34 (4.3)	6 (2.0)	9 (2.3)
Korea, Rep. of	24 (3.3)	9 (2.3)	29 (3.4)	15 (2.7)	14 (2.6)	6 (2.0)	2 (0.7)
Netherlands	73 (4.4)	9 (2.6)	13 (3.3)	3 (1.3)	1 (0.6)	0 (0.0)	1 (0.6)
Russian Federation	42 (4.5)	57 (4.6)	0 (0.5)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Singapore	26 (4.2)	54 (4.3)	8 (2.1)	12 (2.4)	0 (0.0)	0 (0.0)	0 (0.0)
States							
Connecticut	69 (6.9)	30 (6.5)	1 (1.4)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Idaho	59 (5.4)	18 (4.1)	12 (4.5)	0 (0.0)	4 (1.3)	0 (0.0)	7 (4.3)
Illinois	72 (5.6)	27 (5.5)	0 (0.4)	0 (0.4)	0 (0.0)	0 (0.0)	0 (0.3)
Indiana	78 (5.7)	18 (4.9)	4 (1.9)	1 (0.6)	0 (0.0)	0 (0.0)	0 (0.0)
Maryland	73 (4.2)	16 (3.3)	8 (2.0)	1 (1.0)	2 (1.8)	0 (0.0)	0 (0.1)
Massachusetts	57 (7.2)	41 (7.0)	1 (0.1)	0 (0.0)	0 (0.0)	0 (0.0)	2 (1.9)
Michigan	52 (5.0)	31 (4.5)	9 (3.3)	5 (2.1)	0 (0.0)	0 (0.0)	3 (2.7)
Missouri	59 (6.1)	26 (5.9)	12 (3.9)	0 (0.0)	1 (1.1)	0 (0.0)	1 (0.7)
North Carolina	57 (6.4)	23 (5.4)	16 (3.4)	1 (0.5)	4 (2.4)	0 (0.0)	0 (0.0)
Oregon	64 (5.5)	22 (4.8)	9 (2.3)	0 (0.0)	3 (2.1)	0 (0.0)	2 (1.5)
Pennsylvania	69 (5.7)	26 (5.7)	5 (2.4)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.1)
South Carolina	54 (7.6)	32 (6.3)	14 (3.6)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.1)
Texas	41 (6.7)	34 (6.8)	14 (4.3)	7 (4.0)	2 (1.8)	0 (0.0)	2 (1.5)
Districts and Consortia							
Academy School Dist. #20, CO	20 (0.3)	77 (0.3)	1 (0.0)	0 (0.0)	2 (0.1)	0 (0.0)	0 (0.0)
Chicago Public Schools, IL	56 (9.1)	39 (9.1)	3 (0.2)	2 (2.2)	0 (0.0)	0 (0.0)	0 (0.0)
Delaware Science Coalition, DE	75 (5.8)	17 (5.1)	8 (2.8)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
First in the World Consort., IL	61 (5.2)	39 (5.2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Fremont/Lincoln/WestSide PS, NE	72 (3.2)	23 (3.2)	5 (0.2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Guilford County, NC	59 (8.1)	28 (6.3)	10 (5.0)	2 (0.1)	2 (0.1)	0 (0.0)	0 (0.0)
Jersey City Public Schools, NJ	51 (5.7)	46 (6.4)	2 (2.5)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Miami-Dade County PS, FL	53 (9.1)	24 (5.7)	21 (7.3)	2 (2.0)	0 (0.0)	0 (0.0)	0 (0.0)
Michigan Invitational Group, MI	61 (9.8)	29 (7.0)	10 (6.9)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Montgomery County, MD	49 (4.5)	42 (4.9)	3 (1.4)	4 (4.4)	1 (0.2)	0 (0.0)	1 (0.6)
Naperville Sch. Dist. #203, IL	68 (2.4)	30 (2.3)	0 (0.0)	0 (0.0)	2 (0.1)	0 (0.0)	0 (0.0)
Project SMART Consortium, OH	68 (6.6)	23 (6.4)	6 (3.2)	3 (2.5)	0 (0.0)	0 (0.0)	0 (0.0)
Rochester City Sch. Dist., NY	60 (5.1)	21 (5.4)	15 (3.4)	0 (0.0)	0 (0.0)	5 (0.4)	0 (0.0)
SW Math/Sci. Collaborative, PA	59 (6.2)	35 (5.5)	5 (2.4)	0 (0.0)	1 (0.9)	0 (0.0)	0 (0.0)
International Avg. (All Countries)	41 (0.6)	26 (0.5)	16 (0.5)	10 (0.4)	4 (0.2)	2 (0.2)	1 (0.1)

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.



	Sometimes or Always		Never or Rarely	
	Percent of Students	Average Achievement	Percent of Students	Average Achievement
Countries				
United States	24 (2.8)	499 (8.3)	76 (2.8)	504 (4.9)
Belgium (Flemish)	3 (1.1)	567 (19.0)	97 (1.1)	567 (3.9)
Canada <i>r</i>	24 (2.9)	531 (4.9)	76 (2.9)	535 (3.4)
Chinese Taipei	4 (1.6)	577 (22.9)	96 (1.6)	585 (4.1)
Czech Republic	3 (1.7)	537 (9.7)	97 (1.7)	520 (4.6)
England <i>s</i>	14 (2.5)	518 (9.1)	86 (2.5)	509 (5.6)
Hong Kong, SAR	3 (1.4)	636 (14.9)	97 (1.4)	581 (4.4)
Italy	30 (3.5)	468 (6.9)	70 (3.5)	484 (4.7)
Japan	1 (0.7)	~ ~	99 (0.7)	579 (1.8)
Korea, Rep. of	16 (2.9)	586 (5.6)	84 (2.9)	588 (2.3)
Netherlands	10 (5.3)	510 (44.2)	90 (5.3)	540 (6.9)
Russian Federation	34 (3.7)	539 (8.4)	66 (3.7)	520 (6.9)
Singapore	20 (3.6)	616 (14.5)	80 (3.6)	602 (6.8)
States				
Connecticut <i>r</i>	38 (6.7)	507 (9.7)	62 (6.7)	529 (13.8)
Idaho <i>r</i>	14 (3.9)	497 (14.8)	86 (3.9)	498 (9.5)
Illinois	22 (5.3)	503 (19.9)	78 (5.3)	513 (7.2)
Indiana	18 (4.9)	497 (14.3)	82 (4.9)	522 (7.5)
Maryland <i>r</i>	30 (5.8)	488 (12.9)	70 (5.8)	482 (7.6)
Massachusetts	35 (4.5)	519 (10.1)	65 (4.5)	508 (7.0)
Michigan	14 (4.4)	537 (13.1)	86 (4.4)	522 (7.7)
Missouri	24 (6.0)	490 (8.1)	76 (6.0)	492 (6.6)
North Carolina	21 (4.4)	484 (13.8)	79 (4.4)	494 (6.6)
Oregon	33 (7.9)	528 (10.6)	67 (7.9)	508 (6.4)
<i>Pennsylvania</i>	21 (5.4)	513 (17.7)	79 (5.4)	510 (6.2)
South Carolina	32 (7.2)	513 (14.5)	68 (7.2)	499 (8.3)
Texas <i>r</i>	25 (6.3)	515 (26.0)	75 (6.3)	526 (8.3)
Districts and Consortia				
Academy School Dist. #20, CO	19 (0.2)	570 (2.7)	81 (0.2)	522 (2.0)
Chicago Public Schools, IL	29 (10.4)	463 (15.9)	71 (10.4)	468 (6.0)
Delaware Science Coalition, DE <i>r</i>	28 (5.8)	499 (22.0)	72 (5.8)	473 (12.1)
First in the World Consort., IL <i>r</i>	6 (3.9)	536 (33.4)	94 (3.9)	557 (7.1)
Fremont/Lincoln/WestSide PS, NE	19 (5.9)	454 (18.6)	81 (5.9)	495 (9.7)
Guilford County, NC	24 (5.2)	529 (19.2)	76 (5.2)	504 (9.2)
Jersey City Public Schools, NJ	94 (3.3)	482 (10.5)	6 (3.3)	425 (36.0)
Miami-Dade County PS, FL <i>s</i>	32 (7.7)	438 (11.3)	68 (7.7)	413 (17.9)
Michigan Invitational Group, MI	29 (7.5)	532 (6.2)	71 (7.5)	534 (6.9)
Montgomery County, MD <i>s</i>	40 (8.8)	541 (9.4)	60 (8.8)	530 (6.7)
Naperville Sch. Dist. #203, IL	7 (3.5)	644 (3.3)	93 (3.5)	562 (3.3)
Project SMART Consortium, OH	33 (6.7)	508 (11.9)	67 (6.7)	527 (9.5)
Rochester City Sch. Dist., NY	3 (2.0)	433 (29.0)	97 (2.0)	442 (7.1)
SW Math/Sci. Collaborative, PA	14 (5.5)	528 (13.1)	86 (5.5)	517 (8.4)
International Avg. (All Countries)	18 (0.5)	491 (2.2)	82 (0.5)	487 (0.8)

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.

A tilde (~) indicates insufficient data to report achievement.

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

	Almost Always		Pretty Often		Once in a While or Never	
	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement
Countries						
United States	40 (1.6)	491 (3.7)	46 (1.3)	520 (4.3)	14 (0.9)	493 (6.1)
Belgium (Flemish)	19 (0.9)	534 (4.1)	56 (1.7)	568 (4.1)	25 (1.6)	558 (8.8)
Canada	25 (1.6)	516 (3.9)	50 (1.4)	534 (2.9)	25 (1.1)	541 (4.1)
Chinese Taipei	27 (1.2)	589 (5.1)	46 (1.0)	590 (4.2)	27 (1.5)	576 (6.5)
Czech Republic	7 (1.2)	494 (10.9)	33 (1.7)	522 (4.9)	60 (2.3)	522 (4.5)
England	14 (0.9)	463 (5.6)	46 (1.6)	500 (4.8)	40 (1.9)	507 (5.4)
Hong Kong, SAR	9 (0.7)	569 (7.3)	37 (1.6)	579 (4.9)	54 (2.2)	587 (5.2)
Italy	9 (0.8)	452 (8.7)	19 (0.9)	476 (6.3)	72 (1.3)	485 (3.7)
Japan	12 (1.4)	571 (6.1)	30 (1.5)	582 (3.2)	58 (2.1)	579 (2.6)
Korea, Rep. of	7 (0.5)	587 (6.9)	18 (0.8)	601 (4.5)	75 (1.2)	584 (1.9)
Netherlands	14 (1.5)	510 (10.5)	47 (1.9)	538 (6.7)	39 (1.7)	555 (8.2)
Russian Federation	26 (1.1)	517 (6.6)	50 (1.3)	541 (6.5)	24 (1.3)	510 (6.5)
Singapore	19 (0.9)	597 (8.3)	45 (1.0)	609 (6.5)	36 (1.4)	602 (6.4)
States						
Connecticut	41 (1.9)	500 (9.2)	48 (1.7)	528 (9.7)	11 (1.1)	501 (11.3)
Idaho	41 (2.9)	485 (6.9)	45 (1.9)	509 (8.3)	14 (1.7)	482 (11.3)
Illinois	42 (1.8)	501 (6.9)	47 (1.6)	521 (7.9)	11 (1.3)	494 (6.8)
Indiana	35 (1.8)	508 (7.6)	50 (1.6)	522 (6.9)	15 (1.8)	514 (13.5)
Maryland	39 (1.6)	483 (6.7)	46 (1.6)	513 (6.5)	15 (1.6)	488 (9.2)
Massachusetts	36 (2.1)	499 (5.8)	50 (1.7)	527 (6.7)	13 (1.3)	502 (8.5)
Michigan	37 (2.0)	508 (8.5)	50 (1.7)	529 (6.8)	13 (1.6)	512 (8.2)
Missouri	34 (2.9)	479 (5.0)	45 (2.3)	502 (5.4)	21 (2.6)	486 (11.5)
North Carolina	45 (2.1)	488 (7.0)	45 (1.5)	507 (8.0)	10 (1.2)	480 (12.2)
Oregon	32 (2.1)	504 (7.7)	49 (1.8)	528 (6.5)	19 (2.0)	504 (8.3)
Pennsylvania	36 (1.3)	494 (8.5)	52 (1.5)	519 (5.8)	12 (0.9)	506 (7.5)
South Carolina	46 (2.3)	484 (8.4)	44 (1.9)	523 (6.7)	9 (1.4)	497 (11.5)
Texas	34 (2.1)	518 (9.1)	46 (1.6)	537 (8.3)	20 (2.0)	489 (13.3)
Districts and Consortia						
Academy School Dist. #20, CO	42 (1.5)	519 (3.3)	47 (1.4)	545 (3.1)	11 (0.8)	500 (6.8)
Chicago Public Schools, IL	35 (3.8)	454 (6.4)	44 (1.6)	471 (6.8)	21 (3.6)	463 (12.6)
Delaware Science Coalition, DE	39 (1.5)	474 (8.7)	48 (1.7)	499 (10.1)	13 (1.2)	471 (16.4)
First in the World Consort., IL	40 (1.8)	553 (8.6)	53 (2.2)	568 (5.6)	7 (1.8)	535 (8.1)
Fremont/Lincoln/WestSide PS, NE	40 (1.6)	473 (8.7)	48 (2.2)	507 (9.9)	12 (1.4)	473 (12.5)
Guilford County, NC	41 (2.2)	501 (8.7)	50 (1.8)	528 (8.6)	9 (0.9)	495 (16.0)
Jersey City Public Schools, NJ	50 (1.6)	471 (8.7)	40 (1.3)	485 (10.7)	11 (1.3)	478 (12.3)
Miami-Dade County PS, FL	45 (2.8)	417 (9.8)	37 (2.9)	443 (9.9)	18 (4.0)	410 (15.6)
Michigan Invitational Group, MI	37 (2.9)	534 (9.3)	52 (3.1)	538 (4.7)	12 (2.7)	507 (8.8)
Montgomery County, MD	37 (2.1)	523 (5.3)	52 (1.9)	550 (4.5)	11 (0.7)	529 (11.2)
Naperville Sch. Dist. #203, IL	42 (1.4)	556 (3.6)	52 (1.3)	582 (3.6)	6 (0.7)	559 (8.7)
Project SMART Consortium, OH	37 (2.9)	509 (7.3)	48 (2.1)	535 (8.9)	16 (1.7)	513 (10.0)
Rochester City Sch. Dist., NY	53 (2.4)	441 (7.3)	37 (2.5)	469 (8.7)	10 (1.3)	465 (15.2)
SW Math/Sci. Collaborative, PA	30 (2.1)	503 (7.5)	56 (1.9)	528 (7.7)	14 (1.8)	504 (9.1)
International Avg. (All Countries)	21 (0.2)	473 (1.2)	36 (0.2)	493 (0.9)	43 (0.2)	490 (0.9)

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

Background data provided by 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 a 70-84% student response rate.