REFERENCE 2

The Mathematics Curriculum

	Percentage of Students Whose Schools Reported Various Organizational Approaches in Mathematics Instruction to Accommodate Students with Different Abilities or Interests in Mathematics				
	All Classes Study Similar Content but at Different Levels of Difficulty	Students Are Grouped by Ability within Classes	Enrichment Mathematics Is Offered	Remedial Mathematics Is Offered	Different Classes Study Different Content
Countries					
United States	r 49 (4.7)	r 49 (4.2)	r 79 (2.8)	r 64 (3.9)	r 37 (4.2)
Belgium (Flemish)	66 (5.1)	11 (3.2)	36 (5.0)	81 (4.7)	100 (0.0)
Canada	s 77 (3.4)	s 43 (4.3)	s 66 (3.8)	s 87 (2.5)	s 17 (3.0)
Chinese Taipei	50 (4.2)	25 (3.7)	88 (2.7)	81 (3.5)	18 (3.1)
Czech Republic	68 (4.3)	44 (5.0)	29 (3.9)	62 (4.3)	7 (3.0)
England	r 78 (3.6)	r 57 (4.7)	r 48 (5.0)	r 61 (4.8)	r 0 (0.0)
Hong Kong, SAR	r 62 (4.9)	17 (3.5)	63 (4.4)	59 (4.8)	r 3 (1.7)
Italy	0 (0.0)	0 (0.0)	51 (3.8)	81 (3.0)	0 (0.0)
Japan	31 (3.9)	13 (3.1)	32 (3.5)	67 (4.3)	13 (2.9)
Korea, Rep. of	66 (3.9)	41 (4.3)	27 (3.5)	26 (3.5)	38 (4.5)
Netherlands	r 55 (6.8)	r 39 (6.9)	r 90 (3.8)	r 64 (7.5)	r 60 (6.8)
Russian Federation	32 (3.8)	47 (4.0)	90 (3.0)	53 (3.8)	25 (3.5)
Singapore	0 (0.0)	0 (0.0)	80 (3.5)	99 (0.8)	82 (3.6)
States					
Connecticut	s 56 (9.5)	s 70 (8.4)	s 98 (2.1)	s 62 (9.5)	s 65 (9.7)
Idaho	r 46 (7.0)	r 57 (9.8)	r 73 (7.7)	r 80 (6.8)	r 66 (9.7)
Illinois	50 (6.2)	r 67 (5.6)	84 (3.7)	43 (7.2)	55 (5.9)
Indiana	51 (7.8)	52 (8.9)	85 (5.3)	43 (8.4)	43 (7.4)
Maryland	r 61 (8.0)	r 86 (4.2)	r 86 (5.1)	r 69 (7.7)	r 66 (7.0)
Massachusetts	s 54 (9.8)	s 37 (8.8)	s 84 (7.0)	s 63 (9.7)	s 41 (10.0)
Michigan	36 (7.5)	62 (6.2)	79 (6.2)	57 (8.1)	58 (6.9)
Missouri	36 (7.2)	48 (5.8)	64 (5.8)	38 (7.2)	41 (6.1)
North Carolina	r 81 (5.8)	r 73 (7.2)	r 94 (3.6)	r 71 (7.1)	r 40 (7.3)
Oregon	65 (8.3)	62 (8.4)	93 (4.2)	83 (6.0)	75 (7.5)
Pennsylvania	48 (8.5)	52 (8.2)	84 (6.1)	62 (6.5)	59 (5.5)
South Carolina	74 (6.5)	46 (8.1)	98 (2.5)	r 60 (7.4)	r 51 (6.7)
Texas	r 79 (7.5)	r 39 (6.8)	r 100 (0.0)	r 56 (9.4)	r 41 (8.6)
Districts and Consortia					
Academy School Dist. #20, CO	r 35 (0.4)	75 (0.3)	100 (0.0)	83 (0.4)	r 100 (0.0)
Chicago Public Schools, IL	r 78 (7.1)	s 54 (11.5)	r 28 (12.0)	r 70 (9.3)	r 15 (7.8)
Delaware Science Coalition, DE	r 54 (2.0)	r 58 (2.1)	r 96 (0.2)	r 53 (1.9)	r 64 (1.9)
First in the World Consort., IL	r 40 (1.3)	r 58 (1.1)	r 100 (0.0)	r 35 (1.6)	r 88 (0.4)
Fremont/Lincoln/WestSide PS, NE	r 80 (2.1)	s 68 (1.3)	s 100 (0.0)	r 76 (0.9)	s 84 (0.6)
Guilford County, NC	s 56 (1.2)	s 91 (0.2)	r 82 (0.8)	r 56 (1.2)	s 94 (0.6)
Jersey City Public Schools, NJ	58 (1.3)	16 (0.7)	11 (2.1)	52 (1.4)	0 (0.0)
Miami-Dade County PS, FL	s 83 (9.9)	s 74 (13.5)	s 100 (0.0)	s 40 (15.4)	x x
Michigan Invitational Group, MI	41 (1.4)	23 (1.2)	59 (1.5)	45 (1.5)	31 (1.1)
Montgomery County, MD	s 57 (10.7)	s 82 (8.8)	s 100 (0.0)	s 78 (11.2)	s 46 (15.5)
Naperville Sch. Dist. #203, IL	45 (1.5)	15 (2.1)	100 (0.0)	76 (1.5)	57 (1.5)
Project SMART Consortium, OH	r 37 (1.3)	46 (1.5)	96 (0.5)	41 (1.4)	r 63 (1.2)
Rochester City Sch. Dist., NY	r 100 (0.0)	r 0 (0.0)	r 100 (0.0)	r 46 (1.6)	r 27 (1.6)
SW Math/Sci. Collaborative, PA	50 (7.6)	46 (8.6)	90 (5.7)	53 (8.8)	57 (8.0)
International Avg. (All Countries)	58 (0.6)	35 (0.6)	58 (0.6)	72 (0.6)	17 (0.5)

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.

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.

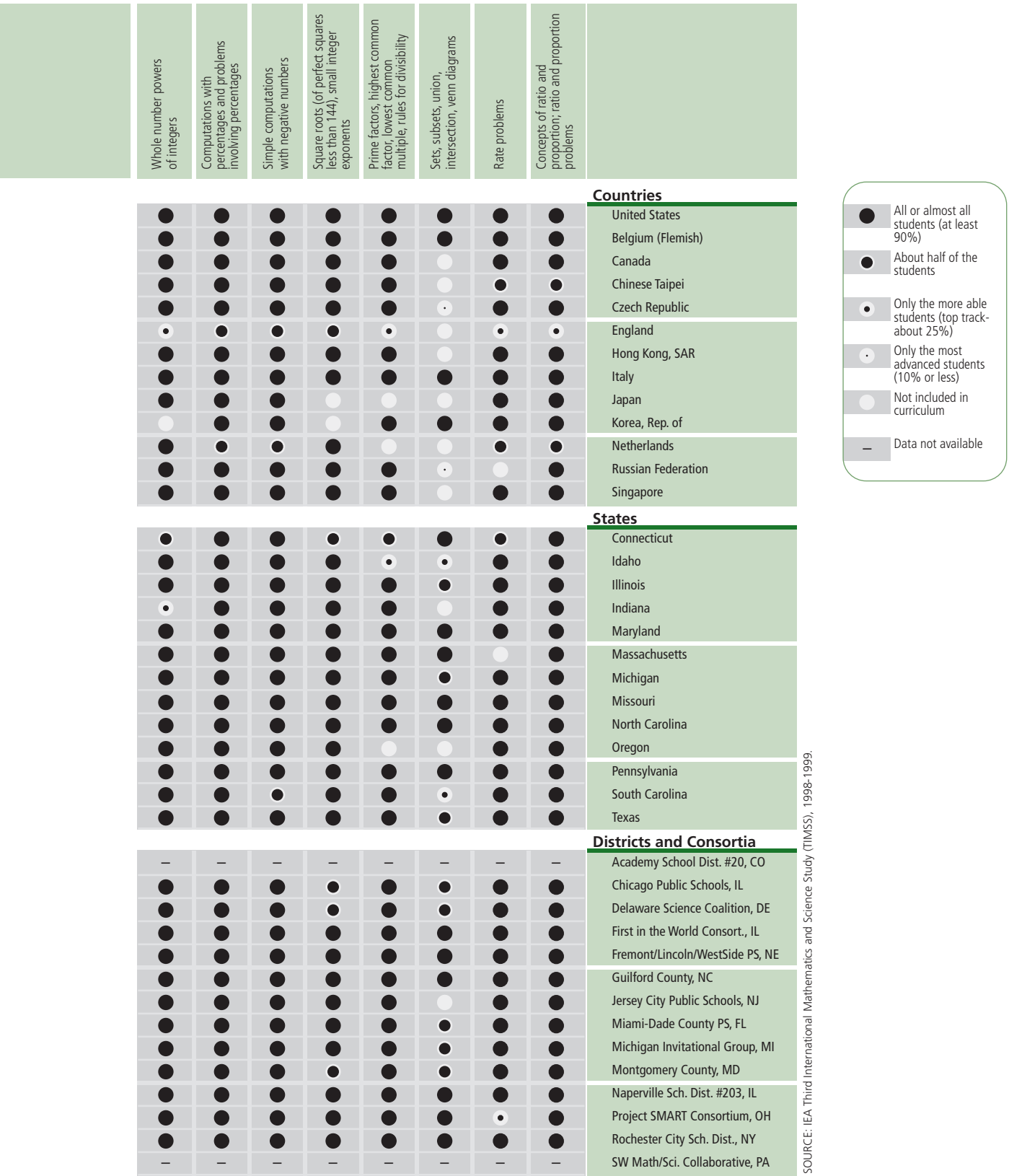
Exhibit R2.2 Detailed Information About Topics in the Intended Curriculum, Up to and Including Eighth Grade – Fractions and Number Sense

8th Grade Mathematics

	Whole numbers – including place values, factorization and operations (+, –, x, ÷)	Understanding and representing common fractions	Computations with common fractions	Understanding and representing decimal fractions	Computations with decimal fractions	Relationships between common and decimal fractions, ordering of fractions	Rounding whole numbers and decimal fractions	Estimating the results of computations	Number lines
Countries									
United States	●	●	●	●	●	●	●	●	●
Belgium (Flemish)	●	●	●	●	●	●	●	●	●
Canada	●	●	●	●	●	●	●	●	●
Chinese Taipei	●	●	●	●	●	●	●	●	●
Czech Republic	●	●	●	●	●	●	●	●	●
England	●	●	◐	●	◐	◐	◐	●	●
Hong Kong, SAR	●	●	●	●	●	●	●	●	●
Italy	●	●	●	●	●	●	●	●	●
Japan	●	●	●	●	●	●	●	●	●
Korea, Rep. of	●	●	●	●	●	●	●	○	●
Netherlands	●	●	◐	●	●	◐	●	●	●
Russian Federation	●	●	●	●	●	●	●	●	●
Singapore	●	●	●	●	●	●	●	●	●
States									
Connecticut	●	●	●	●	●	●	●	●	●
Idaho	●	●	●	●	●	●	●	●	●
Illinois	●	●	●	●	●	●	●	●	●
Indiana	●	●	●	●	●	●	●	●	●
Maryland	●	●	●	●	●	●	●	●	●
Massachusetts	●	●	●	●	●	●	●	●	●
Michigan	●	●	●	●	●	●	●	●	●
Missouri	●	●	●	●	●	●	●	●	●
North Carolina	●	●	●	●	●	●	●	●	●
Oregon	●	●	●	●	●	●	●	●	●
Pennsylvania	●	●	●	●	●	●	●	●	●
South Carolina	●	●	●	●	●	●	●	●	●
Texas	●	●	●	●	●	●	●	●	●
Districts and Consortia									
Academy School Dist. #20, CO	–	–	–	–	–	–	–	–	–
Chicago Public Schools, IL	●	●	●	●	●	●	●	●	●
Delaware Science Coalition, DE	●	●	●	●	●	●	●	●	●
First in the World Consort., IL	●	●	●	●	●	●	●	●	●
Fremont/Lincoln/WestSide PS, NE	●	●	●	●	●	●	●	●	●
Guilford County, NC	●	●	●	●	●	●	●	●	●
Jersey City Public Schools, NJ	●	●	●	●	●	●	●	●	●
Miami-Dade County PS, FL	●	●	●	●	●	●	●	●	●
Michigan Invitational Group, MI	●	●	●	●	●	●	●	●	●
Montgomery County, MD	●	●	●	●	●	●	●	●	●
Naperville Sch. Dist. #203, IL	●	●	●	●	●	●	●	●	●
Project SMART Consortium, OH	●	●	●	●	●	●	●	●	●
Rochester City Sch. Dist., NY	●	●	●	●	●	●	●	●	●
SW Math/Sci. Collaborative, PA	–	–	–	–	–	–	–	–	–

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

Background data provided by coordinators from participating jurisdictions.



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

Countries

United States	
Belgium (Flemish)	
Canada	
Chinese Taipei	
Czech Republic	
England	
Hong Kong, SAR	
Italy	
Japan	
Korea, Rep. of	
Netherlands	
Russian Federation	
Singapore	

States

Connecticut	
Idaho	
Illinois	
Indiana	
Maryland	
Massachusetts	
Michigan	
Missouri	
North Carolina	
Oregon	
Pennsylvania	
South Carolina	
Texas	

Districts and Consortia

Academy School Dist. #20, CO	–	–	–	–	–	–	–	–	–	–	A	c	a	5	7

Background data provided by coordinators from participating jurisdictions.

Exhibit R2.4 Detailed Information About Topics in the Intended Curriculum, Up to and Including Eighth Grade – Data Representation, Analysis, and Probability

	Collecting and graphing data from a survey	Representation and interpretation of data in graphs, charts, and tables	Arithmetic mean	Median and mode	Simple probabilities – understanding and calculations
Countries					
United States	●	●	●	●	●
Belgium (Flemish)	●	●	●	◉	●
Canada	●	●	●	●	●
Chinese Taipei	●	◉	○	○	●
Czech Republic	●	●	●	●	·
England	●	●	◉	◉	●
Hong Kong, SAR	●	●	○	○	○
Italy	●	●	●	○	●
Japan	●	●	●	●	○
Korea, Rep. of	●	●	●	○	●
Netherlands	●	●	●	◉	◉
Russian Federation	●	●	●	●	●
Singapore	●	●	●	●	○
States					
Connecticut	●	●	●	●	●
Idaho	●	●	●	●	●
Illinois	●	●	●	●	●
Indiana	●	●	●	●	●
Maryland	●	●	●	●	●
Massachusetts	●	●	●	●	●
Michigan	●	●	●	●	●
Missouri	●	●	●	●	●
North Carolina	●	●	●	●	●
Oregon	●	●	●	●	●
Pennsylvania	●	●	●	●	●
South Carolina	●	●	●	●	●
Texas	●	●	●	●	●
Districts and Consortia					
Academy School Dist. #20, CO	–	–	–	–	–
Chicago Public Schools, IL	◉	◉	●	●	●
Delaware Science Coalition, DE	●	●	●	●	●
First in the World Consort., IL	●	●	●	●	●
Fremont/Lincoln/WestSide PS, NE	●	●	●	●	●
Guilford County, NC	●	●	●	●	●
Jersey City Public Schools, NJ	●	●	●	●	●
Miami-Dade County PS, FL	●	●	●	●	●
Michigan Invitational Group, MI	●	●	●	●	●
Montgomery County, MD	●	●	●	●	●
Naperville Sch. Dist. #203, IL	●	●	●	●	●
Project SMART Consortium, OH	●	●	●	●	●
Rochester City Sch. Dist., NY	●	●	●	●	●
SW Math/Sci. Collaborative, PA	–	–	–	–	–

● All or almost all students (at least 90%)
◉ About half of the students
◉ Only the more able students (top track-about 25%)
· Only the most advanced students (10% or less)
○ Not included in curriculum
– Data not available

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

Background data provided by coordinators from participating jurisdictions.

Countries													
United States													
Belgium (Flemish)													
Canada													
Chinese Taipei													
Czech Republic													
England													
Hong Kong, SAR													
Italy													
Japan													
Korea, Rep. of													
Netherlands													
Russian Federation													
Singapore													
States													
Connecticut													
Idaho													
Illinois													
Indiana													
Maryland													
Massachusetts													
Michigan													
Missouri													
North Carolina													
Oregon													
Pennsylvania													
South Carolina													
Texas													
Districts and Consortia													
Academy School Dist. #20, CO	–	–	–	–	–	–	–	–	–	–	–	–	–
Chicago Public Schools, IL													
Delaware Science Coalition, DE													
First in the World Consort., IL													
Fremont/Lincoln/WestSide PS, NE													
Guilford County, NC													
Jersey City Public Schools, NJ													
Miami-Dade County PS, FL													
Michigan Invitational Group, MI													
Montgomery County, MD													
Naperville Sch. Dist. #203, IL													
Project SMART Consortium, OH													
Rochester City Sch. Dist., NY													
SW Math/Sci. Collaborative, PA	–	–	–	–	–	–	–	–	–	–	–	–	–

Delaware

Background data provided by coordinators from participating jurisdictions.

Exhibit R2.6 Detailed Information About Topics in the Intended Curriculum, Up to and Including Eighth Grade – Algebra

	Number patterns and simple relations	Writing expressions for general terms in number pattern sequence	Translating from verbal descriptions to symbolic expressions	Simple algebraic expressions	Evaluating simple algebraic expressions by substitution of given value of variables	Representing situations algebraically; formulas	Solving simple equations	Solving simple inequalities	Solving simultaneous equations in two variables	Interpreting linear relations	Using the graph of a relationship to interpolate/extrapolate
Countries											
United States	●	●	●	●	●	●	●	●	·	●	·
Belgium (Flemish)	●	●	●	●	●	●	●				
Canada	●	◐	●	●	●	●	●	·		◐	●
Chinese Taipei	●	◐	●	●	●	◐	●	◐	●	◐	
Czech Republic	◐	◐	●	●	●	●	●	·			
England	●	◐	◐	◐	◐	◐	◐	◐	·		
Hong Kong, SAR	●		●	●	●	●	●		●	●	
Italy	●	●	●	●	●	●	●	●	●	●	
Japan	●	●	●	●	●	●	●	●	●	●	●
Korea, Rep. of	●		●	●	●	●	●	●	●	●	●
Netherlands	●	◐	◐	◐	•	◐	◐			●	●
Russian Federation			●	●	●	●	●	●	●	●	
Singapore	●	●	●	●	●	●	●	◐	●	●	●
States											
Connecticut	●	●	●	●	●	●	●	◐	•	●	◐
Idaho	●	●	●	●	●	●	●	•	•	•	·
Illinois	●	●	●	●	●	●	●	●	●	●	●
Indiana	●	•	●	●	●	●	●	●		●	●
Maryland	●		●	●	●		●	●		●	
Massachusetts	●		●	●	●		●				●
Michigan	●	●	●	●	●	◐	●	●	◐	◐	●
Missouri	●	●	●	●	●	◐	●	◐	•	•	·
North Carolina	●	●	●	●	●	●	●	●	◐	◐	◐
Oregon	●	●	●	●	●	●	●	●			
Pennsylvania	●	●	●	●	●	●	●	●	●	●	●
South Carolina	●	●	●	●	●	●	●	●	·	●	◐
Texas	●	●	●	●	●	●	●	●	•	•	•
Districts and Consortia											
Academy School Dist. #20, CO	–	–	–	–	–	–	–	–	–	–	–
Chicago Public Schools, IL	●	◐	◐	◐	◐	◐	◐	•	·	·	·
Delaware Science Coalition, DE	●	●	●	●	●	●	●	●		●	●
First in the World Consort., IL	●	●	●	●	●	●	●	●	●	●	•
Fremont/Lincoln/WestSide PS, NE	●	●	●	●	●	●	●	●	◐	◐	●
Guilford County, NC	●	●	●	●	●	●	●	●	◐	●	◐
Jersey City Public Schools, NJ	●	●	●	●	●	●	●	●	·	•	·
Miami-Dade County PS, FL	●	●	●	●	●	●	●	●	•	●	●
Michigan Invitational Group, MI	●	●	●	●	●	●	●	●	·	●	◐
Montgomery County, MD	●	◐	●	●	●	●	●	●	◐	◐	●
Naperville Sch. Dist. #203, IL	●	●	●	●	●	●	●	●	•	●	•
Project SMART Consortium, OH	●	●	●	●	●	●	●			●	●
Rochester City Sch. Dist., NY	●	●	●	●	●	●	●	●	◐	●	◐
SW Math/Sci. Collaborative, PA	–	–	–	–	–	–	–	–	–	–	–

● All or almost all students (at least 90%)
◐ About half of the students
• Only the more able students (top track-about 25%)
· Only the most advanced students (10% or less)
Not included in curriculum
– Data not available

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

Background data provided by coordinators from participating jurisdictions.

	Percentage of Students					
	Taught Topics					Not Yet Taught 50% or More of Topics
	More Than 80% of Topics	More Than 50% Up to and Including 80% of Topics	More Than 50% of Topics Each Taught More Than 5 Periods	More Than 50% of Topics Each Taught at Least 1-5 Periods	50% or Less of Topics Taught	
Countries						
United States	8 (1.4)	9 (1.4)	34 (2.8)	48 (3.2)	1 (0.7)	0 (0.1)
Belgium (Flemish)	21 (3.0)	19 (2.3)	2 (1.0)	42 (3.7)	10 (3.6)	6 (2.9)
Canada r	1 (0.6)	9 (2.0)	27 (2.7)	63 (3.3)	1 (0.4)	0 (0.3)
Chinese Taipei	90 (2.4)	8 (2.1)	0 (0.0)	2 (1.1)	0 (0.0)	0 (0.0)
Czech Republic	53 (5.7)	25 (4.3)	5 (2.2)	16 (3.3)	1 (0.8)	0 (0.0)
England s	8 (2.4)	19 (3.3)	3 (0.9)	63 (4.8)	6 (2.1)	1 (0.6)
Hong Kong, SAR	18 (3.0)	56 (4.5)	2 (1.2)	18 (3.6)	5 (2.0)	1 (0.8)
Italy	39 (3.9)	42 (4.1)	4 (1.3)	14 (2.9)	1 (0.5)	0 (0.0)
Japan	51 (4.9)	30 (4.3)	1 (0.0)	16 (3.3)	2 (1.2)	0 (0.0)
Korea, Rep. of	10 (2.4)	14 (2.8)	11 (2.5)	57 (4.0)	6 (2.0)	2 (1.3)
Netherlands	8 (2.3)	28 (5.8)	17 (6.3)	41 (5.8)	5 (2.7)	0 (0.0)
Russian Federation	– –	– –	– –	– –	– –	– –
Singapore	37 (4.2)	35 (4.3)	6 (2.0)	22 (3.7)	0 (0.0)	0 (0.0)
States						
Connecticut r	16 (5.4)	17 (5.4)	33 (6.0)	32 (5.4)	2 (1.5)	0 (0.0)
Idaho r	6 (4.0)	5 (2.4)	32 (5.2)	55 (6.0)	1 (0.1)	0 (0.3)
Illinois	6 (2.3)	16 (4.8)	31 (5.3)	44 (6.2)	3 (2.1)	0 (0.0)
Indiana	6 (3.0)	7 (2.5)	36 (7.0)	49 (7.2)	3 (1.8)	0 (0.0)
Maryland r	13 (3.6)	26 (6.1)	17 (4.7)	44 (5.9)	0 (0.0)	0 (0.0)
Massachusetts	9 (3.3)	17 (3.8)	28 (3.3)	41 (4.8)	5 (2.3)	0 (0.0)
Michigan	18 (3.3)	25 (3.9)	18 (3.9)	38 (5.2)	1 (1.3)	0 (0.0)
Missouri	5 (2.3)	10 (2.1)	26 (5.3)	58 (5.7)	1 (0.9)	0 (0.0)
North Carolina	3 (2.0)	6 (3.1)	26 (5.2)	64 (6.0)	1 (0.0)	0 (0.0)
Oregon	5 (2.2)	11 (3.5)	25 (3.9)	59 (5.0)	0 (0.0)	0 (0.0)
Pennsylvania	11 (6.2)	15 (2.9)	21 (3.4)	53 (7.0)	1 (0.6)	0 (0.0)
South Carolina	9 (3.6)	13 (4.0)	26 (5.3)	52 (5.7)	0 (0.0)	0 (0.0)
Texas	13 (4.8)	9 (3.0)	28 (5.2)	48 (7.3)	0 (0.0)	2 (1.3)
Districts and Consortia						
Academy School Dist. #20, CO	18 (0.3)	17 (0.3)	22 (0.4)	43 (0.4)	0 (0.0)	0 (0.0)
Chicago Public Schools, IL	0 (0.0)	2 (0.2)	55 (10.7)	41 (10.6)	2 (0.2)	0 (0.0)
Delaware Science Coalition, DE r	14 (4.9)	24 (6.0)	27 (6.5)	34 (5.5)	0 (0.0)	1 (0.5)
First in the World Consort., IL r	14 (4.1)	28 (3.7)	18 (4.7)	40 (4.7)	0 (0.0)	0 (0.0)
Fremont/Lincoln/WestSide PS, NE	3 (0.1)	0 (0.0)	33 (7.7)	64 (7.7)	0 (0.0)	0 (0.0)
Guilford County, NC	7 (2.2)	11 (3.7)	18 (5.9)	64 (6.6)	0 (0.0)	0 (0.0)
Jersey City Public Schools, NJ	6 (4.2)	6 (5.1)	42 (4.0)	46 (3.8)	0 (0.0)	0 (0.0)
Miami-Dade County PS, FL s	7 (4.5)	8 (5.8)	24 (6.8)	58 (11.3)	1 (0.1)	2 (0.3)
Michigan Invitational Group, MI	8 (5.6)	27 (7.1)	8 (2.1)	55 (7.8)	2 (0.1)	0 (0.0)
Montgomery County, MD s	30 (5.9)	20 (4.0)	14 (4.4)	35 (5.1)	0 (0.0)	0 (0.0)
Naperville Sch. Dist. #203, IL	6 (2.0)	22 (2.5)	6 (1.0)	66 (3.5)	0 (0.0)	0 (0.0)
Project SMART Consortium, OH	18 (5.3)	4 (2.0)	34 (6.9)	42 (6.7)	2 (2.5)	0 (0.2)
Rochester City Sch. Dist., NY	11 (4.2)	7 (2.6)	15 (2.0)	63 (4.5)	4 (1.0)	0 (0.0)
SW Math/Sci. Collaborative, PA	7 (3.4)	23 (4.3)	20 (4.9)	47 (6.1)	3 (0.2)	0 (0.0)
International Avg. (All Countries)	26 (0.5)	24 (0.6)	11 (0.5)	34 (0.6)	4 (0.3)	1 (0.2)

Background data provided by teachers.

* Categories of topic coverage for fractions and number sense are based on combined responses to questions about the individual mathematics subtopics in the content area described in Exhibit 5.20.

1 For each topic in Exhibit 5.20, teachers were asked if the topic was taught before this year, taught 1-5 periods this year, taught more than 5 periods this year, or not yet taught. Topics taught during this year are included in this category regardless if taught before this year.

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.

Exhibit R2.8 When Measurement Topics Are Taught*

		Percentage of Students					
		Taught Topics Before This Year Only		Taught Topics During This Year[1]			Not Yet Taught 50% or More of Topics
		More Than 80% of Topics	More Than 50% Up to and Including 80% of Topics	More Than 50% of Topics Each Taught More Than 5 Periods	More Than 50% of Topics Each Taught at Least 1-5 Periods	50% or Less of Topics Taught	
Countries							
United States		10 (2.2)	11 (1.9)	16 (2.9)	54 (3.6)	3 (0.9)	6 (1.4)
Belgium (Flemish)		33 (3.5)	27 (3.8)	4 (3.4)	19 (3.0)	13 (3.7)	3 (1.4)
Canada	r	1 (0.5)	8 (1.6)	21 (2.9)	56 (3.4)	11 (1.4)	2 (0.8)
Chinese Taipei		20 (3.6)	53 (4.4)	3 (1.4)	5 (1.8)	17 (3.3)	2 (1.4)
Czech Republic		50 (5.9)	29 (5.0)	4 (2.0)	14 (3.4)	4 (1.7)	0 (0.0)
England	s	8 (2.4)	18 (2.7)	5 (1.3)	58 (3.8)	8 (1.5)	3 (0.9)
Hong Kong, SAR		15 (3.1)	28 (4.2)	5 (1.8)	41 (4.4)	10 (2.8)	1 (1.1)
Italy		29 (3.8)	42 (4.0)	7 (2.3)	15 (2.9)	7 (1.8)	1 (0.6)
Japan		49 (4.6)	26 (4.3)	1 (0.8)	8 (2.1)	5 (2.0)	12 (2.9)
Korea, Rep. of		11 (2.5)	19 (3.3)	8 (2.4)	49 (4.1)	7 (2.0)	6 (1.7)
Netherlands	r	6 (3.3)	8 (2.7)	15 (6.2)	51 (6.8)	15 (3.6)	7 (4.7)
Russian Federation		– –	– –	– –	– –	– –	– –
Singapore		39 (4.8)	32 (4.6)	8 (2.5)	19 (3.7)	2 (1.1)	0 (0.0)
States							
Connecticut	r	15 (3.7)	17 (5.7)	28 (5.7)	30 (6.2)	6 (2.6)	4 (2.3)
Idaho	r	12 (4.6)	4 (2.2)	13 (4.1)	55 (7.1)	3 (1.8)	13 (5.0)
Illinois		12 (4.0)	9 (2.3)	17 (4.4)	58 (5.7)	2 (1.4)	2 (1.5)
Indiana		5 (2.9)	14 (4.5)	15 (3.6)	44 (7.3)	20 (7.2)	2 (1.5)
Maryland	r	21 (4.5)	18 (4.9)	9 (3.5)	44 (5.3)	4 (2.2)	4 (2.2)
Massachusetts	r	15 (4.9)	17 (4.0)	20 (4.6)	37 (4.2)	6 (2.7)	5 (2.7)
Michigan		19 (4.4)	18 (3.9)	10 (3.8)	45 (6.3)	5 (2.5)	2 (1.3)
Missouri		5 (2.3)	11 (2.7)	12 (3.2)	61 (5.5)	5 (2.4)	5 (3.2)
North Carolina		8 (1.9)	7 (2.5)	12 (3.3)	64 (4.9)	5 (2.3)	5 (2.3)
Oregon		2 (1.6)	15 (4.3)	15 (4.4)	60 (6.8)	6 (3.3)	2 (0.9)
Pennsylvania		15 (6.6)	11 (3.2)	13 (3.6)	47 (4.1)	10 (5.5)	4 (1.7)
South Carolina		12 (4.5)	10 (3.6)	15 (3.8)	62 (5.3)	1 (0.3)	0 (0.0)
Texas		18 (5.2)	5 (2.5)	15 (3.3)	61 (6.3)	1 (0.1)	0 (0.0)
Districts and Consortia							
Academy School Dist. #20, CO		2 (0.1)	20 (0.4)	16 (0.3)	38 (0.3)	14 (0.2)	10 (0.3)
Chicago Public Schools, IL		7 (5.5)	0 (0.0)	35 (7.2)	58 (10.3)	0 (0.0)	0 (0.0)
Delaware Science Coalition, DE	r	13 (6.2)	11 (5.2)	17 (6.1)	57 (7.5)	2 (0.1)	1 (0.1)
First in the World Consort., IL	r	11 (3.6)	5 (2.6)	16 (7.8)	65 (7.8)	0 (0.0)	3 (0.2)
Fremont/Lincoln/WestSide PS, NE	r	13 (1.2)	9 (0.2)	3 (0.1)	54 (6.7)	10 (0.5)	11 (6.7)
Guilford County, NC		15 (5.1)	17 (4.2)	12 (4.4)	46 (6.9)	8 (4.4)	3 (0.1)
Jersey City Public Schools, NJ	r	9 (4.2)	0 (0.0)	38 (6.5)	53 (6.8)	0 (0.0)	0 (0.0)
Miami-Dade County PS, FL	s	4 (3.6)	3 (2.6)	19 (5.0)	50 (6.9)	13 (8.3)	11 (5.3)
Michigan Invitational Group, MI		14 (5.4)	18 (6.8)	10 (4.6)	50 (10.3)	8 (3.0)	0 (0.0)
Montgomery County, MD	s	36 (2.7)	13 (2.2)	10 (5.1)	34 (7.0)	7 (3.3)	0 (0.0)
Naperville Sch. Dist. #203, IL		6 (3.1)	27 (5.1)	8 (0.3)	53 (5.0)	6 (0.2)	0 (0.0)
Project SMART Consortium, OH		7 (3.7)	3 (2.3)	26 (6.4)	63 (6.2)	0 (0.0)	0 (0.0)
Rochester City Sch. Dist., NY		4 (1.8)	30 (5.7)	2 (0.0)	51 (5.0)	6 (2.5)	7 (2.0)
SW Math/Sci. Collaborative, PA		11 (3.5)	16 (4.1)	20 (6.0)	38 (4.8)	10 (4.6)	6 (4.3)
International Avg. (All Countries)		22 (0.6)	23 (0.6)	8 (0.4)	32 (0.7)	8 (0.4)	6 (0.4)

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

Background data provided by teachers.

* Categories of topic coverage for measurement are based on combined responses to questions about the individual mathematics subtopics in the content area described in Exhibit 5.21.

1 For each topic in Exhibit 5.21, teachers were asked if the topic was taught before this year, taught 1-5 periods this year, taught more than 5 periods this year, or not yet taught. Topics taught during this year are included in this category regardless if taught before this year.

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.

Countries							
United States		6 (1.5)	7 (2.5)	26 (2.4)	53 (3.2)	2 (1.1)	6 (1.3)
Belgium (Flemish)		8 (1.6)	23 (3.0)	0 (0.0)	27 (4.2)	24 (3.0)	18 (4.2)
Canada	r	2 (0.8)	5 (1.6)	27 (3.2)	45 (3.4)	8 (0.8)	13 (3.0)
Chinese Taipei		2 (1.2)	3 (1.4)	1 (0.8)	1 (0.7)	1 (0.0)	92 (2.1)
Czech Republic		2 (1.7)	24 (5.1)	1 (1.0)	7 (2.1)	13 (3.8)	52 (5.3)
England	s	7 (1.7)	15 (3.2)	11 (2.2)	62 (3.9)	3 (1.3)	3 (0.7)
Hong Kong, SAR		3 (1.6)	13 (3.1)	1 (0.9)	7 (2.3)	6 (2.2)	70 (4.2)
Italy		2 (1.1)	17 (2.8)	10 (2.2)	33 (3.9)	4 (1.5)	34 (3.4)
Japan		2 (1.2)	8 (2.7)	1 (0.7)	12 (2.9)	10 (2.6)	68 (4.2)
Korea, Rep. of		3 (1.3)	23 (3.4)	21 (3.2)	38 (4.0)	10 (2.5)	4 (1.6)
Netherlands		0 (0.0)	7 (2.6)	17 (5.8)	48 (6.6)	6 (2.3)	22 (5.7)
Russian Federation		– –	– –	– –	– –	– –	– –
Singapore		2 (1.4)	2 (1.3)	28 (3.7)	54 (3.2)	1 (0.0)	13 (3.3)
States							
Connecticut	s	8 (2.7)	13 (5.3)	37 (6.7)	39 (5.9)	2 (1.5)	1 (0.1)
Idaho	r	6 (2.6)	12 (4.2)	18 (4.9)	53 (8.2)	1 (0.1)	10 (3.6)
Illinois		8 (3.2)	6 (2.5)	26 (5.0)	56 (6.1)	3 (2.0)	2 (1.0)
Indiana		3 (2.0)	6 (3.3)	28 (5.6)	48 (6.1)	5 (2.4)	10 (6.6)
Maryland	r	2 (1.4)	4 (1.7)	44 (5.1)	48 (4.6)	2 (1.7)	0 (0.0)
Massachusetts	r	8 (2.8)	5 (2.4)	34 (5.7)	42 (6.2)	7 (2.2)	5 (2.0)
Michigan	r	13 (4.1)	11 (3.1)	17 (3.8)	53 (4.3)	3 (1.4)	3 (1.5)
Missouri		7 (2.1)	6 (2.4)	19 (5.1)	65 (6.9)	1 (0.0)	3 (2.0)
North Carolina		1 (0.9)	7 (2.6)	21 (4.4)	56 (4.6)	4 (2.9)	10 (3.6)
Oregon		3 (1.8)	4 (2.5)	33 (5.3)	56 (5.3)	1 (0.1)	3 (1.0)
Pennsylvania		10 (3.2)	9 (4.7)	17 (3.7)	53 (7.5)	1 (0.6)	10 (2.8)
South Carolina		5 (2.1)	11 (4.5)	26 (6.2)	56 (7.4)	2 (0.1)	0 (0.0)
Texas		6 (3.0)	5 (3.1)	31 (4.7)	51646u2-1.4377.1eania 99 s377(1.-468.6((3.3))]TJ/5.715 7 20.4879 7 121Academy School nist(68)		

	Indiana

Background data provided by teachers.

* Categories of topic coverage for data representation, analysis, and probability are based on combined responses to questions about the individual mathematics subtopics in the content area described in Exhibit 5.22.

1 For each topic in Exhibit 5.22, teachers were asked if the topic was taught before this year, taught 1-5 periods this year, taught more than 5 periods this year, or not yet taught. Topics taught during this year are included in this category regardless if taught before this year.

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.

Exhibit R2.10 When Geometry Topics Are Taught*

	Percentage of Students					
	Taught Topics Before This Year Only		Taught Topics During This Year[1]			Not Yet Taught 50% or More of Topics
	More Than 80% of Topics	More Than 50% Up to and Including 80% of Topics	More Than 50% of Topics Each Taught More Than 5 Periods	More Than 50% of Topics Each Taught at Least 1-5 Periods	50% or Less of Topics Taught	
Countries						
United States	3 (1.0)	7 (1.4)	14 (2.2)	42 (2.9)	10 (2.0)	25 (2.9)
Belgium (Flemish)	0 (0.0)	5 (1.4)	10 (1.9)	47 (3.5)	15 (2.1)	22 (2.4)
Canada r	2 (0.5)	3 (1.0)	14 (2.9)	52 (3.2)	12 (2.2)	18 (2.6)
Chinese Taipei	1 (0.0)	1 (0.5)	6 (2.1)	18 (3.3)	42 (4.1)	33 (4.1)
Czech Republic	35 (4.6)	23 (4.8)	4 (2.3)	17 (3.1)	17 (3.8)	4 (1.9)
England s	13 (2.4)	18 (3.1)	2 (0.8)	29 (2.5)	23 (3.4)	15 (2.7)
Hong Kong, SAR	13 (2.7)	21 (3.5)	5 (2.0)	16 (2.7)	30 (4.0)	14 (3.2)
Italy	2 (1.0)	10 (2.8)	9 (2.2)	29 (3.6)	41 (3.9)	9 (2.3)
Japan	2 (1.5)	21 (3.2)	8 (2.4)	35 (4.1)	32 (4.4)	1 (1.0)
Korea, Rep. of	5 (1.8)	6 (1.8)	12 (2.4)	57 (4.4)	19 (3.4)	1 (0.0)
Netherlands	3 (1.3)	17 (4.5)	15 (5.1)	24 (5.1)	25 (4.8)	17 (4.9)
Russian Federation	– –	– –	– –	– –	– –	– –
Singapore	1 (0.0)	1 (0.0)	24 (4.1)	62 (4.4)	5 (2.0)	7 (2.4)
States						
Connecticut r	1 (1.2)	10 (4.6)	8 (3.4)	34 (6.9)	8 (4.5)	39 (6.5)
Idaho r	3 (2.2)	6 (2.7)	7 (2.4)	43 (7.6)	8 (4.3)	32 (5.6)
Illinois	6 (2.2)	11 (4.2)	10 (3.1)	49 (6.3)	10 (3.9)	13 (3.7)
Indiana	2 (1.3)	8 (3.4)	8 (3.4)	37 (7.5)	19 (5.1)	27 (5.8)
Maryland r	4 (1.9)	11 (3.5)	10 (2.3)	31 (6.4)	13 (4.6)	32 (5.8)
Massachusetts r	2 (1.5)	9 (3.1)	13 (3.8)	31 (6.0)	7 (2.8)	38 (5.7)
Michigan r	8 (3.7)	17 (4.8)	16 (4.5)	41 (5.4)	5 (2.8)	14 (3.1)
Missouri	4 (1.9)	5 (2.5)	4 (2.0)	62 (6.1)	7 (2.2)	19 (5.3)
North Carolina	1 (1.1)	6 (2.3)	14 (3.2)	64 (4.7)	4 (1.8)	12 (3.5)
Oregon	0 (0.0)	2 (1.4)	14 (4.6)	64 (6.5)	5 (2.7)	15 (4.3)
Pennsylvania	7 (6.0)	7 (2.9)	6 (2.2)	43 (5.1)	9 (2.9)	28 (7.4)
South Carolina	1 (1.0)	8 (3.7)	15 (4.5)	59 (6.9)	6 (2.8)	10 (3.2)
Texas	4 (1.9)	9 (3.3)	11 (2.6)	63 (4.8)	9 (3.9)	4 (2.3)
Districts and Consortia						
Academy School Dist. #20, CO	2 (0.1)	0 (0.0)	21 (0.3)	22 (0.3)	6 (0.1)	49 (0.4)
Chicago Public Schools, IL	2 (2.4)	6 (0.6)	17 (7.3)	55 (8.4)	1 (0.7)	19 (5.1)
Delaware Science Coalition, DE r	0 (0.0)	10 (5.2)	21 (6.3)	38 (7.4)	11 (2.2)	20 (5.0)
First in the World Consort., IL	3 (1.0)	11 (3.5)	24 (9.2)	36 (9.1)	20 (4.9)	6 (3.0)
Fremont/Lincoln/WestSide PS, NE r	0 (0.0)	14 (1.4)	22 (1.3)	31 (8.6)	7 (3.6)	26 (9.7)
Guilford County, NC	0 (0.0)	19 (3.4)	18 (5.4)	41 (6.5)	9 (5.4)	13 (4.9)
Jersey City Public Schools, NJ	4 (3.8)	2 (1.9)	36 (6.3)	53 (6.1)	2 (0.1)	3 (0.3)
Miami-Dade County PS, FL s	0 (0.0)	3 (2.7)	0 (0.0)	41 (7.8)	13 (6.2)	44 (9.6)
Michigan Invitational Group, MI	0 (0.0)	19 (5.5)	19 (6.2)	28 (8.6)	25 (6.7)	9 (3.5)
Montgomery County, MD s	13 (3.9)	13 (3.7)	15 (3.1)	46 (4.3)	12 (3.7)	0 (0.0)
Naperville Sch. Dist. #203, IL	2 (1.9)	13 (2.7)	10 (0.9)	56 (3.8)	17 (2.5)	3 (2.6)
Project SMART Consortium, OH	1 (0.7)	3 (2.0)	6 (3.5)	69 (7.2)	4 (2.8)	17 (5.6)
Rochester City Sch. Dist., NY	2 (1.8)	8 (3.5)	4 (1.0)	39 (5.6)	17 (3.8)	30 (4.1)
SW Math/Sci. Collaborative, PA	6 (3.5)	5 (2.9)	11 (3.0)	42 (5.8)	18 (6.7)	19 (5.4)
International Avg. (All Countries)	6 (0.3)	10 (0.5)	9 (0.4)	33 (0.6)	20 (0.6)	22 (0.5)

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

Background data provided by teachers.

* Categories of topic coverage for geometry are based on combined responses to questions about the individual mathematics subtopics in the content area described in Exhibit 5.23.

1 For each topic in Exhibit 5.23, teachers were asked if the topic was taught before this year, taught 1-5 periods this year, taught more than 5 periods this year, or not yet taught. Topics taught during this year are included in this category regardless if taught before this year.

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.