

REFERENCE **4**

School Contexts  
for Learning and Instruction



	Percentage of Students Affected by Shortage or Inadequacy				
	Instructional Materials	Budget for Supplies	School Buildings/ Grounds	Heating/Cooling and Lighting	Instructional Space
<b>Countries</b>					
United States	r 22 (2.9)	r 27 (4.1)	r 33 (3.4)	r 17 (3.5)	r 33 (3.4)
Belgium (Flemish)	6 (2.2)	5 (2.1)	20 (3.3)	4 (1.8)	20 (4.2)
Canada	45 (2.8)	43 (2.8)	29 (2.8)	11 (1.9)	25 (2.4)
Chinese Taipei	45 (4.4)	45 (4.0)	59 (4.1)	41 (3.9)	51 (4.0)
Czech Republic	22 (5.0)	52 (5.5)	15 (3.3)	5 (1.4)	11 (3.3)
England	r 37 (4.9)	r 31 (4.5)	r 42 (5.3)	r 17 (3.6)	r 38 (5.1)
Hong Kong, SAR	35 (3.9)	21 (3.9)	57 (4.8)	24 (3.4)	57 (4.6)
Italy	28 (3.5)	28 (3.6)	31 (3.7)	15 (2.7)	35 (3.4)
Japan	17 (2.9)	14 (3.0)	29 (3.8)	31 (3.5)	34 (3.5)
Korea, Rep. of	37 (3.9)	29 (4.0)	51 (4.5)	52 (4.2)	55 (4.2)
Netherlands	r 10 (4.0)	r 19 (6.4)	r 45 (7.0)	r 9 (2.8)	r 26 (5.3)
Russian Federation	92 (2.4)	81 (3.1)	73 (3.6)	63 (4.4)	69 (3.2)
Singapore	10 (2.2)	7 (2.0)	23 (2.6)	11 (2.4)	26 (3.3)
<b>States</b>					
Connecticut	s 15 (5.4)	s 18 (7.2)	s 23 (8.0)	s 9 (5.0)	s 28 (8.3)
Idaho	r 15 (6.5)	r 34 (9.4)	r 24 (5.3)	r 23 (4.7)	r 29 (8.1)
Illinois	15 (5.1)	19 (5.0)	16 (5.4)	12 (4.6)	31 (7.2)
Indiana	17 (6.8)	17 (5.2)	20 (6.2)	15 (5.2)	33 (7.8)
Maryland	r 36 (6.8)	r 27 (6.8)	r 29 (6.9)	r 27 (5.9)	r 41 (5.8)
Massachusetts	s 26 (6.6)	s 18 (6.4)	s 38 (6.9)	s 17 (6.0)	s 26 (7.5)
Michigan	14 (4.1)	20 (4.9)	27 (7.5)	10 (4.3)	36 (7.4)
Missouri	23 (7.3)	24 (7.3)	26 (6.2)	18 (5.0)	40 (6.7)
North Carolina	r 35 (7.3)	r 37 (7.6)	r 40 (7.8)	r 23 (7.5)	r 48 (8.3)
Oregon	56 (6.9)	57 (7.3)	42 (6.9)	22 (7.6)	56 (7.5)
<i>Pennsylvania</i>	7 (2.8)	8 (3.5)	24 (8.3)	15 (5.3)	27 (7.7)
South Carolina	14 (6.0)	r 26 (7.1)	39 (8.4)	21 (7.2)	50 (9.3)
Texas	r 10 (5.9)	r 18 (7.0)	r 29 (7.4)	r 16 (7.1)	r 33 (8.6)
<b>Districts and Consortia</b>					
Academy School Dist. #20, CO	0 (0.0)	25 (0.3)	0 (0.0)	0 (0.0)	0 (0.0)
Chicago Public Schools, IL	s 13 (7.5)	s 27 (12.5)	s 34 (11.5)	s 32 (11.8)	s 29 (12.5)
Delaware Science Coalition, DE	r 31 (2.1)	r 36 (2.1)	r 27 (1.7)	r 26 (1.9)	r 28 (2.3)
First in the World Consort., IL	r 13 (0.4)	r 11 (0.4)	r 19 (0.8)	r 0 (0.0)	r 28 (0.9)
Fremont/Lincoln/WestSide PS, NE	r 33 (1.5)	r 49 (1.6)	r 39 (1.5)	r 49 (1.6)	r 57 (1.7)
Guilford County, NC	s 0 (0.0)	s 0 (0.0)	s 30 (1.0)	r 43 (1.1)	r 36 (1.0)
Jersey City Public Schools, NJ	11 (0.7)	9 (0.7)	43 (1.4)	16 (0.8)	r 65 (1.7)
Miami-Dade County PS, FL	s 17 (9.6)	s 25 (12.0)	s 53 (14.8)	s 3 (2.9)	s 59 (11.5)
Michigan Invitational Group, MI	30 (1.3)	30 (1.3)	38 (1.7)	22 (1.0)	49 (1.6)
Montgomery County, MD	s 18 (10.2)	s 5 (5.4)	s 25 (12.0)	s 23 (9.1)	s 53 (8.9)
Naperville Sch. Dist. #203, IL	24 (1.5)	24 (1.5)	24 (1.5)	0 (0.0)	45 (1.5)
Project SMART Consortium, OH	22 (0.8)	r 24 (1.4)	r 29 (1.4)	22 (0.9)	29 (1.3)
Rochester City Sch. Dist., NY	r 41 (1.5)	r 41 (1.5)	r 0 (0.0)	r 16 (0.5)	r 16 (0.5)
SW Math/Sci. Collaborative, PA	18 (7.4)	13 (5.8)	18 (7.3)	17 (7.1)	23 (7.3)
<b>International Avg. (All Countries)</b>	45 (0.6)	47 (0.6)	50 (0.7)	36 (0.6)	47 (0.6)

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.

	Percentage of Students Affected by Shortage or Inadequacy					
	Science Laboratory Equipment and Materials	Computers for Science Instruction	Computer Software for Science Instruction	Calculators for Science Instruction	Library Materials Relevant to Science Instruction	Audio-Visual Resources for Science Instruction
<b>Countries</b>						
United States	r 38 (4.2)	r 45 (4.1)	r 47 (4.1)	r 29 (3.8)	r 29 (3.9)	r 30 (4.0)
Belgium (Flemish)	14 (3.5)	29 (4.5)	30 (4.6)	4 (1.4)	9 (2.4)	11 (3.8)
Canada	37 (3.2)	49 (2.8)	54 (2.9)	27 (2.5)	39 (2.9)	33 (3.4)
Chinese Taipei	56 (4.1)	62 (4.1)	68 (4.2)	50 (4.4)	56 (4.5)	58 (4.5)
Czech Republic	27 (5.0)	37 (5.1)	40 (5.2)	8 (3.0)	13 (3.2)	13 (3.3)
England	r 41 (4.7)	r 54 (4.9)	r 53 (5.1)	r 26 (4.1)	r 30 (4.4)	r 26 (4.2)
Hong Kong, SAR	36 (4.5)	65 (4.3)	71 (4.1)	20 (3.6)	32 (4.3)	43 (4.7)
Italy	54 (3.6)	38 (3.8)	51 (4.0)	16 (2.8)	39 (3.9)	41 (3.4)
Japan	42 (4.1)	36 (4.3)	43 (4.4)	9 (2.5)	23 (3.7)	36 (3.8)
Korea, Rep. of	60 (4.1)	65 (4.1)	77 (3.7)	43 (4.2)	62 (4.1)	68 (3.9)
Netherlands	r 24 (5.5)	r 43 (6.7)	r 46 (7.4)	r 4 (1.7)	r 20 (4.7)	r 16 (4.6)
Russian Federation	93 (1.9)	87 (3.0)	85 (3.6)	61 (4.1)	81 (3.2)	84 (4.0)
Singapore	11 (2.8)	32 (3.8)	37 (4.2)	6 (1.8)	14 (2.8)	17 (3.1)
<b>States</b>						
Connecticut	s 28 (8.3)	s 37 (7.2)	s 32 (7.3)	s 11 (5.1)	s 28 (8.7)	s 20 (6.5)
Idaho	r 54 (7.8)	r 59 (8.4)	r 66 (8.3)	r 22 (7.7)	r 29 (7.4)	r 34 (7.7)
Illinois	22 (5.8)	32 (6.1)	35 (6.7)	10 (4.2)	18 (5.5)	18 (5.6)
Indiana	33 (7.2)	38 (8.1)	32 (8.1)	18 (7.4)	29 (7.4)	28 (7.2)
Maryland	r 39 (6.1)	r 55 (7.5)	r 57 (7.3)	r 43 (7.1)	r 34 (7.6)	r 35 (7.0)
Massachusetts	s 24 (6.6)	s 49 (8.5)	s 49 (7.0)	s 23 (8.2)	s 24 (7.6)	s 19 (6.7)
Michigan	34 (5.7)	48 (6.2)	51 (7.1)	16 (5.6)	19 (5.6)	24 (6.8)
Missouri	45 (6.9)	56 (7.1)	57 (7.4)	44 (7.4)	30 (7.3)	33 (7.4)
North Carolina	r 56 (7.4)	r 59 (7.6)	r 70 (6.3)	r 47 (8.0)	r 51 (7.7)	r 53 (8.2)
Oregon	52 (6.5)	60 (6.4)	65 (6.9)	40 (8.1)	35 (7.9)	29 (7.0)
<i>Pennsylvania</i>	36 (6.7)	39 (6.8)	39 (6.9)	27 (7.9)	26 (7.1)	29 (7.5)
South Carolina	41 (7.5)	49 (9.6)	r 53 (8.8)	40 (7.7)	47 (8.6)	r 35 (8.5)
Texas	r 33 (7.7)	r 51 (8.5)	r 50 (9.4)	r 30 (7.6)	r 19 (7.3)	r 22 (8.3)
<b>Districts and Consortia</b>						
Academy School Dist. #20, CO	0 (0.0)	0 (0.0)	17 (0.4)	17 (0.4)	0 (0.0)	0 (0.0)
Chicago Public Schools, IL	s 54 (14.2)	s 48 (12.7)	s 68 (11.8)	s 37 (13.9)	s 44 (14.5)	s 45 (13.9)
Delaware Science Coalition, DE	r 50 (2.0)	r 63 (1.9)	r 64 (2.1)	r 35 (1.8)	r 39 (2.1)	r 41 (2.1)
First in the World Consort., IL	r 0 (0.0)	r 8 (1.1)	r 8 (1.1)	s 9 (1.2)	r 8 (1.1)	r 0 (0.0)
Fremont/Lincoln/WestSide PS, NE	r 43 (1.6)	r 35 (1.5)	r 49 (1.6)	r 49 (1.6)	r 22 (1.4)	r 35 (1.5)
Guilford County, NC	r 35 (1.0)	r 47 (1.2)	r 47 (1.2)	r 22 (0.8)	r 20 (0.7)	r 20 (0.7)
Jersey City Public Schools, NJ	42 (1.6)	51 (1.4)	47 (1.5)	24 (1.9)	36 (1.2)	30 (1.2)
Miami-Dade County PS, FL	s 37 (13.8)	s 24 (12.9)	x x	x x	x x	x x
Michigan Invitational Group, MI	35 (1.6)	22 (1.3)	26 (1.3)	28 (1.4)	21 (1.4)	24 (1.3)
Montgomery County, MD	s 30 (14.3)	s 23 (13.1)	s 13 (9.3)	s 23 (13.1)	s 0 (0.0)	s 0 (0.0)
Naperville Sch. Dist. #203, IL	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Project SMART Consortium, OH	38 (1.4)	54 (1.4)	49 (1.4)	20 (1.1)	23 (1.2)	28 (1.2)
Rochester City Sch. Dist., NY	r 35 (1.4)	r 60 (1.6)	r 60 (1.6)	r 35 (1.4)	r 35 (1.4)	r 35 (1.4)
SW Math/Sci. Collaborative, PA	17 (7.0)	36 (6.9)	34 (8.5)	21 (6.7)	14 (4.8)	16 (4.5)
<b>International Avg. (All Countries)</b>	<b>58 (0.6)</b>	<b>59 (0.7)</b>	<b>60 (0.7)</b>	<b>35 (0.6)</b>	<b>50 (0.6)</b>	<b>53 (0.6)</b>

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 &lt;50% of students.

	Percentage of Students by Number of Students per Computer <sup>1</sup>				Percentage of Students in Schools Without Any Computers
	Fewer than 15 Students per Computer	15-30 Students per Computer	31-50 Students per Computer	More than 50 Students per Computer	
<b>Countries</b>					
United States	s 97 (1.8)	3 (1.8)	0 (0.0)	0 (0.0)	0 (0.0)
Belgium (Flemish)	r 83 (3.0)	9 (2.2)	1 (0.8)	4 (1.7)	4 (1.6)
Canada	100 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Chinese Taipei	90 (2.5)	9 (2.6)	1 (0.8)	0 (0.0)	0 (0.0)
Czech Republic	89 (3.0)	2 (1.4)	5 (2.4)	0 (0.0)	3 (1.2)
England	r 100 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Hong Kong, SAR	r 86 (3.3)	3 (1.5)	4 (1.8)	3 (1.3)	5 (2.2)
Italy	64 (3.4)	19 (2.9)	7 (2.2)	3 (1.3)	6 (1.6)
Japan	92 (2.7)	5 (1.8)	0 (0.0)	0 (0.0)	3 (1.9)
Korea, Rep. of	75 (3.6)	14 (3.2)	6 (1.8)	5 (1.8)	1 (0.0)
Netherlands	s 99 (1.0)	1 (0.1)	0 (0.0)	0 (0.0)	0 (0.0)
Russian Federation	37 (4.9)	6 (2.0)	1 (0.0)	3 (1.5)	53 (4.8)
Singapore	98 (1.3)	2 (1.3)	0 (0.0)	0 (0.0)	0 (0.0)
<b>States</b>					
Connecticut	x x	x x	x x	x x	x x
Idaho	s 100 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Illinois	r 100 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Indiana	100 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Maryland	s 97 (3.2)	3 (3.2)	0 (0.0)	0 (0.0)	0 (0.0)
Massachusetts	s 94 (3.9)	6 (3.9)	0 (0.0)	0 (0.0)	0 (0.0)
Michigan	r 100 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Missouri	100 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
North Carolina	r 97 (2.6)	3 (0.2)	0 (0.0)	0 (0.0)	0 (0.0)
Oregon	r 98 (2.0)	0 (0.0)	0 (0.0)	2 (2.0)	0 (0.0)
Pennsylvania	r 91 (5.6)	2 (0.3)	0 (0.3)	0 (0.0)	6 (5.2)
South Carolina	r 97 (2.6)	3 (2.6)	0 (0.0)	0 (0.0)	0 (0.0)
Texas	s 100 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
<b>Districts and Consortia</b>					
Academy School Dist. #20, CO	r 100 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Chicago Public Schools, IL	x x	x x	x x	x x	x x
Delaware Science Coalition, DE	s 97 (0.2)	3 (0.2)	0 (0.0)	0 (0.0)	0 (0.0)
First in the World Consort., IL	r 100 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Fremont/Lincoln/WestSide PS, NE	s 100 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Guilford County, NC	s 100 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Jersey City Public Schools, NJ	r 90 (0.3)	10 (0.3)	0 (0.0)	0 (0.0)	0 (0.0)
Miami-Dade County PS, FL	x x	x x	x x	x x	x x
Michigan Invitational Group, MI	r 100 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Montgomery County, MD	x x	x x	x x	x x	x x
Naperville Sch. Dist. #203, IL	100 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Project SMART Consortium, OH	r 100 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Rochester City Sch. Dist., NY	r 100 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
SW Math/Sci. Collaborative, PA	r 99 (1.5)	0 (0.0)	1 (0.2)	0 (0.0)	0 (0.0)
<b>International Avg. (All Countries)</b>	60 (0.4)	6 (0.3)	3 (0.2)	6 (0.3)	25 (0.4)

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

Background data provided by schools.

<sup>1</sup> Based on ratio of grade 8 enrollment to total computers for instructional use by grade 8 teachers and 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 by Level of Access			
	Access to World Wide Web (with or without e-mail)	Access to E-mail Only	No Internet Access but Planning to Get Internet Access by 2001	No Access and No Immediate Plans to Obtain Access
<b>Countries</b>				
United States	r 91 (3.1)	0 (0.0)	9 (2.8)	0 (0.0)
Belgium (Flemish)	73 (4.0)	1 (0.7)	24 (3.9)	2 (1.2)
Canada	96 (1.2)	1 (0.5)	3 (1.0)	0 (0.3)
Chinese Taipei	89 (2.8)	5 (1.9)	6 (2.0)	0 (0.0)
Czech Republic	34 (5.1)	2 (1.7)	45 (5.4)	19 (3.8)
England	r 86 (3.4)	1 (0.1)	13 (3.3)	0 (0.0)
Hong Kong, SAR	r 85 (3.7)	0 (0.0)	15 (3.7)	0 (0.0)
Italy	41 (4.2)	4 (1.6)	54 (4.2)	2 (1.2)
Japan	29 (3.9)	2 (1.1)	29 (4.0)	41 (4.2)
Korea, Rep. of	48 (4.4)	0 (0.0)	46 (4.3)	6 (1.9)
Netherlands	r 81 (7.1)	3 (1.9)	15 (7.0)	1 (0.7)
Russian Federation	5 (1.4)	0 (0.0)	16 (2.8)	79 (2.4)
Singapore	89 (3.0)	1 (0.9)	10 (2.8)	0 (0.0)
<b>States</b>				
Connecticut	s 99 (1.5)	0 (0.0)	1 (0.2)	0 (0.0)
Idaho	r 100 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Illinois	92 (2.6)	0 (0.0)	8 (2.6)	0 (0.0)
Indiana	86 (6.6)	0 (0.0)	8 (3.0)	6 (0.3)
Maryland	r 95 (3.5)	0 (0.0)	5 (3.5)	0 (0.0)
Massachusetts	s 90 (5.7)	0 (0.0)	10 (5.7)	0 (0.0)
Michigan	91 (3.1)	0 (0.0)	9 (3.1)	0 (0.0)
Missouri	87 (5.6)	0 (0.0)	11 (5.1)	2 (2.2)
North Carolina	r 95 (3.5)	2 (0.2)	3 (2.6)	0 (0.0)
Oregon	91 (4.7)	0 (0.0)	9 (4.7)	0 (0.0)
<i>Pennsylvania</i>	r 83 (3.5)	0 (0.0)	15 (3.2)	1 (1.3)
South Carolina	r 100 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
<i>Texas</i>	r 100 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
<b>Districts and Consortia</b>				
Academy School Dist. #20, CO	100 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Chicago Public Schools, IL	r 44 (13.8)	0 (0.0)	56 (13.8)	0 (0.0)
Delaware Science Coalition, DE	s 100 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
First in the World Consort., IL	r 100 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Fremont/Lincoln/WestSide PS, NE	r 100 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Guilford County, NC	r 100 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Jersey City Public Schools, NJ	r 90 (1.1)	10 (1.1)	0 (0.0)	0 (0.0)
Miami-Dade County PS, FL	x x	x x	x x	x x
Michigan Invitational Group, MI	94 (1.3)	0 (0.0)	6 (1.3)	0 (0.0)
Montgomery County, MD	s 100 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Naperville Sch. Dist. #203, IL	100 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Project SMART Consortium, OH	91 (0.3)	0 (0.0)	9 (0.3)	0 (0.0)
Rochester City Sch. Dist., NY	s 69 (1.6)	0 (0.0)	31 (1.6)	0 (0.0)
SW Math/Sci. Collaborative, PA	r 95 (3.5)	0 (0.0)	5 (3.5)	0 (0.0)
<b>International Avg. (All Countries)</b>	41 (0.5)	1 (0.2)	29 (0.6)	29 (0.5)

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

Background data provided by schools.

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( ) 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 &lt;50% of students.

