

REFERENCE **2** The Science Curriculum



	Percentage of Students Whose Schools Reported Various Organizational Approaches in Science Instruction to Accommodate Students with Different Abilities or Interests in Science				
	All Classes Study Similar Content but at Different Levels of Difficulty	Students Are Grouped by Ability within Classes	Enrichment Science Is Offered	Remedial Science Is Offered	Different Classes Study Different Content
Countries					
United States	r 52 (4.6)	r 17 (3.4)	r 34 (4.0)	r 17 (3.4)	r 12 (2.7)
Belgium (Flemish)	57 (4.4)	11 (2.1)	19 (3.1)	37 (4.4)	58 (3.9)
Canada	x x	x x	x x	x x	x x
Chinese Taipei	49 (4.0)	23 (3.6)	83 (3.2)	78 (3.7)	16 (3.2)
Czech Republic	69 (4.6)	27 (4.4)	32 (4.3)	37 (5.2)	6 (2.9)
England	r 66 (4.6)	r 48 (4.5)	r 38 (5.0)	r 45 (4.9)	r 0 (0.0)
Hong Kong, SAR	47 (4.9)	10 (2.9)	49 (4.2)	21 (3.2)	r 2 (1.2)
Italy	0 (0.0)	0 (0.0)	38 (4.0)	45 (4.1)	0 (0.0)
Japan	23 (3.7)	7 (2.4)	28 (3.2)	58 (4.5)	4 (1.8)
Korea, Rep. of	24 (3.7)	39 (4.3)	21 (3.3)	17 (3.0)	16 (2.8)
Netherlands	r 62 (6.2)	r 32 (6.8)	r 77 (6.3)	r 38 (6.4)	r 61 (6.6)
Russian Federation	31 (4.0)	49 (4.0)	91 (2.6)	50 (3.6)	21 (3.5)
Singapore	0 (0.0)	0 (0.0)	81 (3.3)	97 (0.8)	83 (3.5)
States					
Connecticut	s 53 (9.2)	s 21 (8.1)	s 20 (8.1)	s 19 (8.5)	s 15 (7.6)
Idaho	r 57 (8.5)	r 11 (4.5)	r 3 (2.8)	r 10 (5.4)	r 7 (5.1)
Illinois	38 (7.9)	10 (3.5)	21 (6.4)	9 (4.2)	8 (3.8)
Indiana	59 (6.3)	10 (4.4)	25 (5.3)	7 (3.8)	13 (5.0)
Maryland	r 81 (5.4)	r 43 (8.3)	r 45 (6.4)	r 25 (6.4)	r 26 (6.6)
Massachusetts	s 54 (8.2)	s 20 (6.3)	s 19 (7.7)	s 22 (7.5)	s 3 (2.9)
Michigan	55 (9.3)	9 (3.7)	11 (5.3)	18 (6.6)	4 (2.6)
Missouri	44 (7.2)	2 (0.1)	22 (5.6)	14 (4.2)	2 (2.1)
North Carolina	r 75 (6.5)	r 16 (5.0)	r 25 (6.1)	r 11 (5.4)	r 9 (5.1)
Oregon	57 (9.2)	21 (8.0)	21 (8.0)	2 (0.1)	9 (4.0)
<i>Pennsylvania</i>	52 (7.9)	23 (6.1)	35 (6.0)	16 (3.4)	25 (4.7)
South Carolina	72 (6.9)	28 (7.0)	44 (9.1)	13 (4.9)	27 (5.8)
<i>Texas</i>	r 73 (7.7)	r 31 (8.7)	r 72 (8.4)	r 17 (6.2)	r 22 (7.5)
Districts and Consortia					
Academy School Dist. #20, CO	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Chicago Public Schools, IL	s 81 (8.8)	s 34 (11.0)	s 23 (11.2)	s 0 (0.0)	s 10 (6.1)
Delaware Science Coalition, DE	r 39 (2.2)	r 19 (0.9)	r 38 (2.0)	r 27 (2.3)	r 22 (1.0)
First in the World Consort., IL	r 56 (1.3)	r 8 (0.6)	r 15 (1.0)	r 0 (0.0)	r 0 (0.0)
Fremont/Lincoln/WestSide PS, NE	r 100 (0.0)	r 30 (2.1)	r 79 (0.7)	r 7 (0.2)	s 63 (1.9)
Guilford County, NC	r 73 (0.9)	r 28 (1.0)	r 18 (1.1)	r 0 (0.0)	r 0 (0.0)
Jersey City Public Schools, NJ	38 (1.6)	10 (0.6)	5 (2.1)	8 (2.0)	0 (0.0)
Miami-Dade County PS, FL	x x	s 40 (14.2)	s 100 (0.0)	s 17 (9.7)	s 25 (11.6)
Michigan Invitational Group, MI	37 (1.3)	14 (1.1)	15 (1.5)	9 (0.3)	0 (0.0)
Montgomery County, MD	s 81 (8.0)	s 56 (7.6)	s 61 (12.9)	s 17 (9.3)	s 16 (11.6)
Naperville Sch. Dist. #203, IL	0 (0.0)	0 (0.0)	24 (1.5)	0 (0.0)	0 (0.0)
Project SMART Consortium, OH	45 (1.4)	17 (1.0)	53 (1.5)	16 (1.0)	25 (1.4)
Rochester City Sch. Dist., NY	r 100 (0.0)	r 19 (1.3)	r 100 (0.0)	r 19 (1.3)	r 46 (1.6)
SW Math/Sci. Collaborative, PA	57 (8.9)	17 (7.5)	31 (9.6)	18 (6.0)	17 (7.6)
International Avg. (All Countries)	54 (0.7)	28 (0.6)	50 (0.6)	53 (0.7)	14 (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.

	Earth's physical features (layers, landforms, bodies of water, rocks, soil)	Earth's atmosphere (layers, composition, temperature, pressure)	Earth processes and history (weather and climate, physical cycles, plate tectonics, fossils)	Earth in the solar system and the universe (interactions between earth, sun, and moon; relationship to planets and stars)
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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 ¹	—	—	—	—
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.

¹ Pennsylvania: Due to the variation across the state, a representative response cannot be provided for these questions.

	Human body – structure and function of organs and systems	Human bodily processes (metabolism, respiration, digestion)	Human nutrition, health, and disease	Biology of plant and animal life (diversity, structure, life processes, life cycles)	Photosynthesis	Interactions of living things (biomes and ecosystems, interdependence)	Reproduction, genetics, evolution, and speciation
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 ¹	—	—	—	—	—	—	—
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	—	—	—	—	—	—	—

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	Physical properties and physical changes of matter (weight, mass, states of matter, boiling, freezing)	Subatomic particles (protons, electrons, neutrons)	Energy types, sources, and conversions (chemical, kinetic, electric, light energy, work and efficiency)	Heat and temperature	Gas laws (relationship between temperature/pressure/volume)	Wave phenomena, sound, and vibration	Light (reflection, refraction, light and color)	Electricity and magnetism (circuits, conductivity, magnets)	Forces and motion (types of forces, balanced/unbalanced forces, fluid behavior, speed, acceleration)	Buoyancy
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 ¹	—	—	—	—	—	—	—	—	—	—
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	—	—	—	—	—	—	—	—	—	—

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Countries	Classification of matter (elements, compounds, solutions, mixtures)	Structure of matter (atoms, ions, molecules, crystals)	Formation of solutions (solvents, solutes, soluble/insoluble substances)	Acids, bases, and salts	Chemical reactivity and transformations (definition of chemical change, oxidation, combustion)	Energy and chemical change (exothermic and endothermic reactions, reaction rates)	Chemical bonding and compound formation (ionic, covalent)	Chemical equations	Atomic structure	Atomic number and atomic mass	Periodic table	Valency
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 ¹	—	—	—	—	—	—	—	—	—	—	—	—
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	—	—	—	—	—	—	—	—	—	—	—	—

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- About half of the students
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Background data provided by coordinators from participating jurisdictions.

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	Pollution (acid rain, global warming, ozone layer, water pollution)	Conservation of natural resources (land, water, forests, energy sources)	Food supply and production, population, and environmental effects of natural and man-made events
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 ¹	—	—	—
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	—	—	—

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	Scientific method (formulating hypotheses, making observations, drawing conclusions, generalizing)	Experimental design (experimental control, materials and procedures)	Scientific measurements (reliability, replication, experimental error, accuracy, scales)	Using scientific apparatus and conducting routine experimental operations	Gathering, organizing, and representing data (units, tables, charts, graphs)	Describing and interpreting data
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 ¹	—	—	—	—	—	—
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.

¹ Pennsylvania: Due to the variation across the state, a representative response cannot be provided for these questions.

		Percentage of Students					Not Yet Taught 50% or More of Topics
		Taught Topics Before This Year Only		Taught Topics During This Year ¹			
		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	r	20 (3.1)	12 (2.6)	26 (3.4)	20 (2.1)	11 (2.3)	11 (2.4)
Belgium (Flemish)	r	4 (1.8)	12 (2.4)	2 (1.3)	10 (2.7)	12 (2.8)	60 (4.1)
Canada	s	17 (2.6)	12 (2.5)	21 (2.8)	22 (2.8)	14 (2.8)	16 (2.6)
Chinese Taipei		--	--	--	--	--	--
Czech Republic		45 (6.3)	11 (3.4)	6 (1.9)	23 (4.2)	13 (3.7)	2 (1.2)
England	s	22 (4.2)	13 (3.6)	0 (0.0)	24 (4.2)	14 (4.0)	27 (3.5)
Hong Kong, SAR	s	1 (0.1)	0 (0.0)	2 (1.6)	7 (2.9)	1 (0.1)	88 (3.6)
Italy		5 (1.7)	8 (2.1)	18 (3.2)	28 (3.4)	22 (3.1)	19 (2.8)
Japan		0 (0.0)	3 (1.6)	3 (1.8)	6 (1.9)	28 (3.7)	61 (4.0)
Korea, Rep. of		4 (1.6)	13 (3.0)	12 (2.8)	22 (3.4)	41 (4.0)	8 (2.1)
Netherlands		0 (0.0)	1 (0.8)	10 (3.5)	59 (6.0)	14 (3.8)	17 (4.7)
Russian Federation		--	--	--	--	--	--
Singapore		x x	x x	x x	x x	x x	x x
States							
Connecticut	s	38 (7.4)	6 (2.2)	13 (5.2)	17 (5.9)	8 (4.0)	18 (6.6)
Idaho	s	18 (7.5)	0 (0.1)	20 (4.1)	9 (3.5)	3 (2.0)	50 (7.3)
Illinois	r	26 (5.4)	16 (5.5)	19 (5.6)	18 (5.2)	2 (1.3)	19 (6.8)
Indiana	r	31 (7.7)	18 (4.2)	19 (4.5)	14 (4.1)	8 (3.5)	9 (3.6)
Maryland	s	26 (7.2)	8 (3.6)	17 (4.1)	17 (4.5)	15 (5.4)	17 (4.3)
Massachusetts	r	18 (5.1)	12 (5.0)	25 (5.6)	18 (4.8)	10 (4.0)	18 (4.8)
Michigan	r	30 (5.0)	16 (4.6)	12 (3.5)	14 (3.2)	18 (4.5)	11 (3.9)
Missouri	r	11 (4.9)	7 (3.2)	22 (4.5)	29 (5.7)	24 (6.1)	7 (2.9)
North Carolina		6 (3.4)	15 (5.4)	21 (4.8)	22 (5.1)	29 (3.9)	6 (0.9)
Oregon		15 (5.2)	5 (2.5)	37 (8.4)	26 (7.0)	6 (3.2)	11 (4.3)
Pennsylvania	r	29 (6.4)	4 (1.8)	38 (6.2)	7 (2.2)	2 (1.1)	19 (3.7)
South Carolina		7 (4.0)	4 (2.9)	43 (6.1)	41 (7.6)	2 (1.6)	3 (1.3)
Texas	r	1 (0.9)	1 (1.2)	49 (5.7)	37 (5.2)	6 (2.7)	7 (3.2)
Districts and Consortia							
Academy School Dist. #20, CO		64 (0.4)	0 (0.0)	0 (0.0)	26 (0.4)	0 (0.0)	10 (0.2)
Chicago Public Schools, IL	r	33 (10.9)	7 (5.1)	20 (3.8)	19 (10.1)	6 (4.5)	15 (5.8)
Delaware Science Coalition, DE	s	0 (0.0)	0 (0.0)	65 (5.9)	13 (3.7)	8 (4.5)	13 (4.8)
First in the World Consort., IL		72 (6.7)	5 (1.7)	0 (0.0)	7 (1.1)	3 (0.4)	14 (7.8)
Fremont/Lincoln/WestSide PS, NE	r	13 (8.0)	51 (10.3)	1 (0.4)	25 (1.5)	6 (6.3)	3 (2.4)
Guilford County, NC		0 (0.0)	6 (0.9)	25 (5.1)	22 (4.0)	40 (5.5)	7 (3.1)
Jersey City Public Schools, NJ	r	86 (4.1)	0 (0.0)	0 (0.0)	11 (4.2)	4 (0.4)	0 (0.0)
Miami-Dade County PS, FL	s	21 (6.8)	16 (6.8)	10 (4.6)	34 (6.8)	15 (5.2)	4 (2.9)
Michigan Invitational Group, MI	r	22 (2.2)	2 (1.5)	45 (5.6)	16 (5.9)	9 (3.2)	6 (1.8)
Montgomery County, MD		x x	x x	x x	x x	x x	x x
Naperville Sch. Dist. #203, IL		2 (0.6)	40 (4.8)	0 (0.0)	28 (2.8)	29 (4.0)	0 (0.0)
Project SMART Consortium, OH	r	15 (1.7)	16 (2.2)	23 (3.8)	27 (4.0)	6 (3.1)	12 (3.5)
Rochester City Sch. Dist., NY	s	10 (0.8)	0 (0.0)	0 (0.0)	0 (0.0)	3 (2.8)	87 (2.7)
SW Math/Sci. Collaborative, PA		34 (5.5)	8 (2.2)	14 (5.9)	12 (3.9)	5 (2.9)	26 (6.1)
International Avg. (All Countries)		13 (0.5)	10 (0.5)	10 (0.5)	23 (0.7)	12 (0.5)	31 (0.6)

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

Background data provided by teachers.

* Categories of topic coverage for earth science are based on combined responses to questions about the individual science 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.

() 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.

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

		Percentage of Students					Not Yet Taught 50% or More of Topics	
		Taught Topics Before This Year Only		Taught Topics During This Year ¹				
		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	r	45 (3.7)	10 (2.1)	9 (2.0)	17 (2.6)	9 (2.2)	10 (2.0)
	Belgium (Flemish)		0 (0.0)	7 (2.0)	27 (4.3)	39 (4.4)	25 (4.2)	2 (1.3)
	Canada	s	1 (0.5)	6 (1.8)	10 (2.1)	26 (4.1)	10 (3.4)	47 (3.3)
	Chinese Taipei		--	--	--	--	--	--
	Czech Republic		8 (2.4)	2 (0.8)	25 (4.6)	26 (2.8)	33 (5.3)	6 (1.8)
	England	s	9 (3.1)	8 (2.7)	16 (3.5)	42 (4.8)	19 (3.9)	6 (1.7)
	Hong Kong, SAR	r	3 (1.3)	6 (2.4)	4 (1.7)	17 (3.8)	25 (4.3)	45 (4.5)
	Italy		34 (4.0)	30 (3.5)	11 (2.3)	11 (2.3)	13 (2.2)	1 (0.3)
	Japan		1 (1.2)	1 (0.9)	17 (3.3)	37 (3.9)	17 (3.3)	27 (3.5)
	Korea, Rep. of		4 (1.7)	1 (1.0)	13 (3.1)	39 (3.8)	21 (3.6)	20 (3.3)
	Netherlands	r	0 (0.0)	1 (0.7)	2 (1.2)	96 (1.7)	1 (0.9)	0 (0.0)
	Russian Federation		--	--	--	--	--	--
	Singapore		0 (0.0)	2 (1.5)	34 (4.3)	45 (4.6)	14 (3.3)	4 (2.0)
States								
	Connecticut	s	56 (7.9)	16 (7.2)	10 (3.9)	4 (2.4)	9 (4.0)	5 (2.5)
	Idaho	s	57 (8.2)	7 (3.7)	3 (1.5)	7 (3.7)	3 (2.2)	24 (7.5)
	Illinois	r	44 (7.8)	9 (3.9)	9 (3.7)	16 (4.3)	8 (3.5)	14 (3.9)
	Indiana	r	33 (7.6)	13 (8.0)	21 (6.2)	12 (4.9)	11 (4.8)	9 (3.6)
	Maryland	s	58 (7.1)	11 (4.7)	2 (2.3)	12 (4.3)	15 (5.0)	1 (1.0)
	Massachusetts	r	59 (6.6)	16 (4.7)	6 (3.0)	6 (3.2)	6 (3.0)	8 (3.3)
	Michigan	r	28 (5.6)	14 (3.6)	10 (3.9)	16 (3.8)	20 (5.2)	12 (4.0)
	Missouri	r	31 (6.2)	8 (3.6)	6 (3.4)	28 (7.6)	13 (5.0)	14 (4.8)
	North Carolina	r	51 (6.0)	21 (5.0)	1 (1.3)	5 (2.9)	10 (2.6)	12 (3.7)
	Oregon	r	55 (7.1)	8 (3.5)	12 (4.5)	9 (3.7)	6 (1.6)	10 (4.0)
	Pennsylvania	r	55 (5.8)	3 (1.2)	7 (2.7)	8 (2.5)	7 (3.0)	21 (3.2)
	South Carolina	r	48 (7.0)	12 (5.4)	8 (3.3)	17 (5.3)	9 (3.6)	6 (3.1)
	Texas	r	43 (6.5)	12 (4.2)	5 (2.9)	18 (3.8)	14 (5.5)	8 (3.6)
Districts and Consortia								
	Academy School Dist. #20, CO		64 (0.4)	5 (0.2)	21 (0.4)	10 (0.4)	0 (0.0)	0 (0.0)
	Chicago Public Schools, IL	r	6 (4.3)	0 (0.0)	7 (4.6)	48 (12.5)	26 (11.1)	14 (8.3)
	Delaware Science Coalition, DE	s	71 (7.0)	6 (2.4)	1 (0.1)	5 (2.6)	2 (0.9)	15 (6.1)
	First in the World Consort., IL		42 (4.0)	3 (0.4)	22 (4.3)	24 (9.3)	5 (5.0)	5 (1.5)
	Fremont/Lincoln/WestSide PS, NE	s	5 (4.1)	21 (4.3)	28 (5.1)	29 (11.4)	14 (10.5)	3 (1.1)
	Guilford County, NC	r	52 (4.8)	34 (5.4)	0 (0.0)	2 (0.4)	6 (1.0)	6 (2.8)
	Jersey City Public Schools, NJ	r	72 (4.0)	4 (0.6)	0 (0.0)	7 (0.7)	8 (0.8)	9 (4.2)
	Miami-Dade County PS, FL	s	39 (8.5)	15 (5.9)	10 (4.6)	18 (6.1)	13 (4.1)	5 (2.4)
	Michigan Invitational Group, MI	r	41 (2.2)	11 (3.7)	2 (1.2)	17 (1.8)	5 (3.1)	24 (2.8)
	Montgomery County, MD		x x	x x	x x	x x	x x	x x
	Naperville Sch. Dist. #203, IL		12 (0.5)	12 (0.7)	13 (3.1)	42 (5.2)	21 (4.3)	0 (0.0)
	Project SMART Consortium, OH	r	46 (3.6)	12 (1.6)	11 (1.4)	15 (4.2)	8 (2.6)	8 (2.3)
	Rochester City Sch. Dist., NY	r	64 (5.9)	0 (0.0)	10 (4.9)	12 (4.7)	4 (1.8)	10 (3.4)
	SW Math/Sci. Collaborative, PA	r	43 (9.4)	9 (4.2)	0 (0.0)	13 (4.5)	9 (4.9)	26 (5.8)
	International Avg. (All Countries)		7 (0.4)	9 (0.4)	15 (0.6)	29 (0.7)	19 (0.6)	21 (0.5)

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

Background data provided by teachers.

* Categories of topic coverage for biology are based on combined responses to questions about the individual science 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. An "x" indicates teacher response data available for <50% of students.

		Percentage of Students					Not Yet Taught 50% or More of Topics
		Taught Topics Before This Year Only		Taught Topics During This Year ¹			
		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	r	5 (1.5)	7 (1.9)	21 (3.6)	37 (2.9)	12 (2.4)	18 (3.1)
Belgium (Flemish)	s	0 (0.0)	0 (0.0)	1 (0.9)	13 (3.4)	2 (1.3)	84 (3.3)
Canada	s	0 (0.2)	6 (2.0)	7 (1.7)	25 (3.0)	16 (2.8)	45 (3.2)
Chinese Taipei		5 (1.6)	5 (1.9)	12 (2.7)	34 (4.2)	26 (3.8)	19 (2.9)
Czech Republic		0 (0.0)	5 (2.3)	5 (2.1)	26 (4.9)	60 (5.0)	4 (2.1)
England	s	0 (0.2)	16 (4.2)	4 (1.8)	52 (5.3)	27 (4.4)	1 (0.5)
Hong Kong, SAR	r	1 (0.9)	2 (1.3)	12 (3.3)	21 (4.0)	37 (4.9)	28 (4.3)
Italy		4 (1.6)	14 (2.7)	7 (2.1)	20 (3.0)	32 (3.9)	24 (3.3)
Japan		0 (0.0)	12 (3.1)	1 (0.9)	7 (2.0)	73 (3.6)	6 (2.3)
Korea, Rep. of		4 (1.6)	13 (2.6)	2 (1.2)	24 (3.7)	30 (3.9)	28 (3.8)
Netherlands		0 (0.0)	1 (0.7)	0 (0.0)	98 (0.9)	1 (0.6)	0 (0.0)
Russian Federation		--	--	--	--	--	--
Singapore		0 (0.1)	2 (1.1)	20 (3.5)	59 (4.3)	17 (3.6)	2 (1.4)
States							
Connecticut	s	4 (3.1)	7 (3.3)	21 (6.1)	24 (7.9)	7 (4.6)	36 (8.5)
Idaho	s	2 (1.3)	1 (0.8)	25 (8.5)	29 (5.4)	3 (0.3)	41 (7.3)
Illinois	r	7 (3.7)	10 (5.1)	15 (4.6)	19 (5.1)	23 (7.1)	26 (7.7)
Indiana	r	11 (5.8)	11 (4.8)	19 (5.4)	21 (5.9)	18 (6.4)	20 (8.3)
Maryland	s	3 (1.7)	15 (4.5)	19 (6.3)	31 (7.4)	18 (4.7)	14 (4.8)
Massachusetts	r	1 (1.0)	8 (4.6)	24 (6.7)	37 (7.4)	15 (4.6)	16 (4.5)
Michigan	r	4 (2.5)	5 (2.5)	23 (4.6)	51 (6.1)	10 (3.8)	8 (3.9)
Missouri	r	11 (3.9)	7 (3.5)	14 (2.7)	31 (5.1)	23 (6.0)	14 (4.4)
North Carolina	r	1 (0.6)	12 (4.6)	18 (5.7)	40 (6.2)	13 (4.6)	16 (5.9)
Oregon	r	9 (4.9)	12 (4.5)	12 (5.0)	38 (7.3)	13 (4.7)	16 (4.8)
Pennsylvania	s	1 (0.8)	12 (8.2)	25 (5.6)	25 (4.7)	4 (1.9)	33 (7.5)
South Carolina	r	2 (0.2)	7 (2.6)	27 (6.5)	46 (6.3)	7 (3.5)	10 (3.2)
Texas	s	9 (6.1)	16 (3.5)	10 (3.8)	42 (6.7)	7 (2.7)	15 (5.1)
Districts and Consortia							
Academy School Dist. #20, CO		0 (0.0)	0 (0.0)	44 (0.6)	36 (0.6)	0 (0.0)	20 (0.4)
Chicago Public Schools, IL	r	12 (6.4)	7 (5.1)	20 (7.3)	34 (11.5)	15 (7.9)	13 (7.4)
Delaware Science Coalition, DE		x x	x x	x x	x x	x x	x x
First in the World Consort., IL		12 (1.2)	16 (6.4)	16 (2.5)	19 (2.9)	26 (9.1)	11 (1.5)
Fremont/Lincoln/WestSide PS, NE	s	0 (0.0)	30 (3.5)	10 (4.9)	12 (3.2)	33 (7.5)	16 (4.5)
Guilford County, NC	r	1 (0.1)	41 (5.5)	8 (3.4)	31 (5.6)	14 (3.6)	5 (2.4)
Jersey City Public Schools, NJ	r	0 (0.0)	5 (4.3)	19 (1.8)	62 (4.2)	9 (0.8)	5 (0.5)
Miami-Dade County PS, FL	s	5 (3.9)	0 (0.0)	47 (5.9)	31 (5.5)	2 (1.8)	15 (5.1)
Michigan Invitational Group, MI	r	5 (0.3)	6 (0.7)	26 (6.0)	29 (3.4)	18 (6.7)	16 (3.7)
Montgomery County, MD		x x	x x	x x	x x	x x	x x
Naperville Sch. Dist. #203, IL		0 (0.0)	0 (0.0)	26 (2.8)	41 (5.5)	21 (4.9)	11 (0.5)
Project SMART Consortium, OH	r	3 (0.1)	12 (1.5)	25 (3.7)	37 (3.6)	9 (3.0)	14 (1.3)
Rochester City Sch. Dist., NY	r	0 (0.0)	6 (4.1)	21 (4.9)	37 (2.7)	0 (0.0)	36 (6.4)
SW Math/Sci. Collaborative, PA	r	4 (3.1)	4 (3.1)	25 (7.1)	35 (7.5)	7 (2.5)	24 (7.9)
International Avg. (All Countries)		2 (0.2)	7 (0.4)	10 (0.5)	34 (0.7)	21 (0.6)	27 (0.5)

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

Background data provided by teachers.

* Categories of topic coverage for physics are based on combined responses to questions about the individual science 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. An "x" indicates teacher response data available for <50% of students.

		Percentage of Students					Not Yet Taught 50% or More of Topics
		Taught Topics Before This Year Only		Taught Topics During This Year ¹			
		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	r	8 (1.9)	2 (0.9)	31 (3.5)	32 (3.4)	4 (1.0)	23 (3.3)
Belgium (Flemish)	s	0 (0.0)	0 (0.0)	0 (0.0)	3 (1.9)	0 (0.0)	97 (1.9)
Canada	s	6 (2.0)	2 (0.9)	15 (2.7)	25 (3.2)	2 (0.9)	51 (3.9)
Chinese Taipei		7 (1.9)	1 (0.7)	41 (4.5)	46 (3.9)	5 (1.9)	1 (0.7)
Czech Republic		1 (0.3)	5 (2.1)	28 (4.9)	45 (5.6)	14 (3.1)	8 (3.0)
England	s	4 (2.2)	7 (2.8)	14 (3.5)	59 (5.1)	5 (2.0)	11 (3.3)
Hong Kong, SAR	r	8 (2.6)	19 (3.8)	6 (1.9)	15 (3.5)	18 (3.8)	35 (4.8)
Italy		21 (3.1)	15 (2.6)	12 (2.5)	20 (3.2)	9 (2.1)	23 (3.6)
Japan		3 (1.7)	1 (0.7)	32 (4.3)	35 (3.8)	12 (2.7)	18 (3.3)
Korea, Rep. of		2 (1.3)	3 (1.3)	27 (3.4)	45 (3.8)	13 (2.8)	10 (2.3)
Netherlands	r	0 (0.0)	0 (0.0)	0 (0.0)	98 (1.0)	0 (0.0)	1 (0.9)
Russian Federation		--	--	--	--	--	--
Singapore	r	1 (0.6)	11 (2.9)	20 (3.8)	48 (4.9)	9 (2.3)	13 (3.3)
States							
Connecticut	s	5 (4.3)	2 (0.2)	31 (6.5)	31 (7.5)	1 (1.3)	29 (7.4)
Idaho	s	2 (1.4)	0 (0.0)	34 (7.7)	33 (8.0)	3 (2.9)	27 (6.9)
Illinois	r	11 (3.4)	0 (0.3)	43 (7.5)	25 (6.1)	0 (0.0)	20 (4.7)
Indiana	r	4 (2.4)	1 (1.1)	41 (8.1)	31 (5.9)	6 (3.3)	17 (5.3)
Maryland	s	6 (3.1)	1 (1.1)	39 (6.5)	37 (5.7)	1 (1.2)	16 (5.0)
Massachusetts	r	6 (3.1)	3 (2.2)	39 (7.3)	21 (4.6)	5 (2.4)	25 (5.5)
Michigan	r	15 (5.0)	0 (0.2)	28 (6.3)	33 (5.5)	9 (3.9)	14 (5.3)
Missouri	r	6 (3.4)	2 (0.1)	23 (5.3)	24 (6.4)	12 (4.8)	32 (6.5)
North Carolina		0 (0.3)	0 (0.0)	43 (5.1)	38 (5.0)	1 (0.9)	17 (4.9)
Oregon	r	10 (3.9)	7 (3.5)	27 (6.3)	40 (6.2)	4 (2.8)	12 (3.6)
<i>Pennsylvania</i>	r	2 (1.6)	0 (0.0)	48 (6.6)	18 (4.3)	6 (1.1)	26 (5.6)
South Carolina	r	0 (0.0)	0 (0.0)	40 (6.3)	44 (6.9)	2 (0.8)	14 (3.5)
<i>Texas</i>	r	5 (5.0)	1 (1.2)	40 (6.1)	34 (5.8)	0 (0.2)	20 (5.1)
Districts and Consortia							
Academy School Dist. #20, CO		0 (0.0)	0 (0.0)	60 (0.4)	24 (0.5)	2 (0.4)	14 (0.2)
Chicago Public Schools, IL	r	13 (7.0)	1 (1.5)	37 (11.7)	23 (6.2)	0 (0.0)	26 (9.7)
Delaware Science Coalition, DE		x x	x x	x x	x x	x x	x x
First in the World Consort., IL		2 (0.2)	0 (0.0)	63 (6.2)	20 (7.4)	8 (1.9)	7 (0.7)
Fremont/Lincoln/WestSide PS, NE	s	0 (0.0)	12 (1.9)	4 (3.9)	30 (5.7)	15 (2.1)	39 (7.8)
Guilford County, NC		0 (0.0)	0 (0.0)	42 (5.7)	40 (6.0)	6 (0.9)	12 (4.2)
Jersey City Public Schools, NJ	r	0 (0.0)	0 (0.0)	42 (5.2)	36 (5.0)	0 (0.0)	21 (2.1)
Miami-Dade County PS, FL	s	11 (5.7)	12 (7.4)	30 (5.7)	39 (5.6)	1 (0.2)	6 (2.1)
Michigan Invitational Group, MI	r	11 (5.8)	2 (1.5)	25 (3.7)	45 (6.3)	1 (0.1)	15 (2.4)
Montgomery County, MD		x x	x x	x x	x x	x x	x x
Naperville Sch. Dist. #203, IL		0 (0.0)	0 (0.0)	48 (5.6)	41 (5.7)	11 (0.4)	0 (0.0)
Project SMART Consortium, OH	r	3 (0.1)	5 (0.4)	34 (3.7)	32 (4.7)	4 (1.0)	22 (3.3)
Rochester City Sch. Dist., NY	r	0 (0.0)	0 (0.0)	24 (4.1)	48 (4.7)	0 (0.0)	28 (6.1)
SW Math/Sci. Collaborative, PA	r	1 (0.5)	0 (0.0)	43 (5.8)	28 (6.5)	0 (0.0)	29 (4.9)
International Avg. (All Countries)		8 (0.3)	5 (0.3)	19 (0.6)	35 (0.7)	9 (0.4)	24 (0.6)

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

Background data provided by teachers.

* Categories of topic coverage for chemistry are based on combined responses to questions about the individual science 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. An "x" indicates teacher response data available for <50% of students.

		Percentage of Students					Not Yet Taught 50% or More of Topics
		Taught Topics Before This Year Only		Taught Topics During This Year ¹			
		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	r	21 (2.8)	8 (2.1)	15 (2.3)	34 (3.3)	3 (0.7)	19 (2.5)
Belgium (Flemish)	r	4 (1.9)	6 (3.3)	6 (2.0)	64 (4.9)	3 (1.5)	17 (3.6)
Canada	s	9 (2.1)	10 (2.0)	19 (3.6)	51 (4.5)	3 (1.2)	8 (1.7)
Chinese Taipei	r	16 (3.8)	5 (2.2)	4 (1.8)	22 (3.4)	3 (1.5)	51 (4.4)
Czech Republic		10 (4.3)	9 (3.0)	9 (2.7)	64 (5.4)	0 (0.0)	9 (2.7)
England	s	15 (4.1)	8 (2.9)	5 (2.0)	43 (5.5)	1 (0.8)	27 (4.9)
Hong Kong, SAR	r	4 (1.9)	10 (3.1)	4 (2.0)	29 (5.0)	6 (2.4)	46 (5.3)
Italy		17 (3.2)	13 (2.7)	17 (3.0)	29 (3.8)	3 (1.4)	20 (2.8)
Japan		1 (0.0)	1 (0.0)	1 (0.0)	6 (2.0)	0 (0.0)	92 (2.5)
Korea, Rep. of		13 (2.7)	7 (2.2)	4 (1.7)	31 (3.7)	3 (1.4)	42 (4.5)
Netherlands		1 (0.5)	2 (1.1)	5 (1.9)	92 (2.5)	0 (0.0)	1 (1.0)
Russian Federation		--	--	--	--	--	--
Singapore	r	13 (2.6)	12 (3.1)	10 (2.9)	41 (4.5)	12 (2.9)	13 (3.4)
States							
Connecticut	s	40 (7.6)	12 (5.3)	4 (2.1)	27 (6.4)	0 (0.0)	17 (6.2)
Idaho	s	12 (4.4)	5 (2.7)	5 (1.9)	36 (5.2)	0 (0.0)	43 (7.7)
Illinois	r	21 (5.9)	4 (1.8)	31 (7.4)	24 (6.3)	4 (2.5)	16 (4.1)
Indiana	s	25 (4.8)	6 (2.7)	18 (6.3)	31 (5.6)	3 (2.7)	17 (5.1)
Maryland	s	32 (6.4)	15 (5.1)	13 (4.1)	20 (5.5)	4 (3.0)	16 (5.0)
Massachusetts	r	39 (7.3)	13 (4.3)	6 (2.9)	29 (6.4)	3 (2.0)	10 (3.4)
Michigan	r	25 (5.7)	7 (2.9)	22 (6.4)	29 (6.0)	6 (3.8)	11 (4.3)
Missouri	r	27 (6.8)	10 (2.5)	14 (4.9)	39 (5.7)	0 (0.4)	10 (3.5)
North Carolina	r	19 (5.6)	5 (2.0)	19 (5.9)	31 (5.9)	3 (1.9)	23 (5.6)
Oregon	r	27 (7.0)	9 (5.2)	20 (5.7)	25 (5.4)	2 (1.5)	17 (5.5)
Pennsylvania	r	21 (5.9)	2 (1.7)	14 (3.1)	34 (7.8)	1 (0.5)	28 (6.5)
South Carolina	r	11 (3.7)	12 (4.2)	13 (4.4)	53 (7.1)	4 (2.3)	6 (2.3)
Texas	r	16 (5.5)	7 (2.9)	18 (4.9)	45 (7.8)	2 (1.8)	13 (3.3)
Districts and Consortia							
Academy School Dist. #20, CO	s	56 (0.6)	0 (0.0)	16 (0.3)	28 (0.6)	0 (0.0)	0 (0.0)
Chicago Public Schools, IL	r	23 (10.0)	6 (4.6)	4 (3.5)	24 (10.3)	0 (0.0)	43 (13.0)
Delaware Science Coalition, DE	s	11 (5.0)	0 (0.0)	14 (4.9)	33 (5.6)	11 (4.6)	31 (4.9)
First in the World Consort., IL		44 (6.2)	13 (6.5)	7 (1.0)	36 (8.0)	0 (0.0)	0 (0.0)
Fremont/Lincoln/WestSide PS, NE	s	15 (4.9)	11 (6.8)	17 (11.2)	32 (6.5)	0 (0.1)	25 (6.5)
Guilford County, NC	r	7 (4.0)	10 (2.2)	31 (5.9)	28 (5.6)	0 (0.0)	24 (3.8)
Jersey City Public Schools, NJ	r	11 (5.7)	10 (4.3)	9 (0.9)	67 (5.6)	0 (0.0)	2 (0.2)
Miami-Dade County PS, FL	s	18 (4.9)	6 (3.5)	11 (3.9)	46 (8.6)	1 (0.7)	18 (6.5)
Michigan Invitational Group, MI	s	34 (3.5)	18 (3.7)	13 (7.7)	15 (6.5)	0 (0.0)	20 (4.0)
Montgomery County, MD		x x	x x	x x	x x	x x	x x
Naperville Sch. Dist. #203, IL		2 (0.6)	36 (2.0)	0 (0.0)	40 (5.0)	21 (4.8)	0 (0.0)
Project SMART Consortium, OH	r	26 (4.4)	9 (0.8)	11 (3.0)	45 (4.6)	1 (1.1)	8 (1.7)
Rochester City Sch. Dist., NY	s	13 (3.6)	7 (4.5)	0 (0.0)	14 (3.6)	0 (0.0)	67 (6.4)
SW Math/Sci. Collaborative, PA	r	32 (8.2)	4 (2.4)	11 (5.4)	34 (8.1)	3 (2.5)	15 (7.1)
International Avg. (All Countries)		9 (0.4)	7 (0.4)	13 (0.5)	43 (0.7)	3 (0.2)	26 (0.6)

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

Background data provided by teachers.

* Categories of topic coverage for environmental and resource issues are based on combined responses to questions about the individual science subtopics in the content area described in Exhibit 5.24.

¹ For each topic in Exhibit 5.24, 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. An "x" indicates teacher response data available for <50% of students.

	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	r	2 (0.8)	1 (0.4)	49 (4.0)	43 (4.1)	2 (1.3)	2 (1.1)
Belgium (Flemish)	r	3 (2.6)	2 (1.1)	30 (4.4)	37 (4.7)	2 (1.3)	26 (4.8)
Canada	r	2 (0.9)	0 (0.3)	47 (3.1)	47 (3.0)	2 (0.9)	1 (0.7)
Chinese Taipei		31 (4.1)	6 (2.3)	10 (2.5)	26 (3.8)	4 (1.7)	23 (3.9)
Czech Republic	r	2 (1.7)	3 (0.8)	11 (3.7)	52 (5.6)	9 (3.2)	22 (4.4)
England	s	2 (1.1)	3 (2.0)	46 (5.1)	46 (5.0)	1 (0.5)	2 (1.1)
Hong Kong, SAR		18 (3.5)	10 (2.6)	12 (3.1)	27 (3.9)	9 (2.7)	24 (3.8)
Italy		25 (3.4)	14 (2.5)	11 (2.8)	32 (3.6)	14 (3.0)	5 (1.8)
Japan		11 (2.5)	8 (2.5)	28 (3.9)	44 (4.2)	5 (1.7)	5 (1.8)
Korea, Rep. of		8 (1.9)	4 (1.7)	14 (2.9)	59 (4.0)	6 (2.0)	9 (2.3)
Netherlands		3 (2.8)	0 (0.0)	1 (0.7)	96 (3.0)	1 (0.7)	0 (0.0)
Russian Federation		--	--	--	--	--	--
Singapore		13 (3.2)	8 (2.5)	18 (3.5)	46 (4.5)	9 (2.5)	6 (2.4)
States							
Connecticut	s	6 (3.8)	1 (0.1)	64 (6.7)	28 (7.1)	1 (0.9)	0 (0.0)
Idaho	s	7 (2.8)	0 (0.1)	35 (8.7)	56 (8.3)	0 (0.0)	1 (0.6)
Illinois		1 (1.4)	0 (0.0)	57 (5.0)	35 (5.5)	4 (2.8)	3 (2.1)
Indiana	r	5 (2.9)	1 (0.1)	44 (7.6)	49 (8.2)	1 (0.6)	0 (0.0)
Maryland	r	1 (0.7)	0 (0.0)	74 (5.3)	24 (5.1)	0 (0.0)	1 (0.8)
Massachusetts	r	0 (0.0)	1 (0.9)	66 (6.6)	33 (6.6)	0 (0.0)	0 (0.2)
Michigan	r	1 (1.0)	1 (0.6)	67 (6.3)	31 (6.0)	0 (0.0)	0 (0.5)
Missouri	r	4 (2.4)	0 (0.0)	48 (5.0)	41 (5.5)	4 (2.3)	3 (2.7)
North Carolina		2 (1.2)	1 (1.1)	49 (4.5)	35 (6.1)	7 (3.6)	6 (3.1)
Oregon		0 (0.0)	0 (0.0)	59 (8.1)	39 (7.6)	0 (0.0)	2 (1.4)
Pennsylvania	r	3 (2.7)	0 (0.2)	53 (7.5)	35 (5.6)	8 (2.1)	1 (0.6)
South Carolina		2 (0.1)	0 (0.0)	61 (5.9)	35 (6.0)	0 (0.0)	2 (1.4)
Texas	r	8 (5.3)	0 (0.0)	59 (6.3)	33 (6.4)	0 (0.0)	0 (0.2)
Districts and Consortia							
Academy School Dist. #20, CO		0 (0.0)	0 (0.0)	74 (0.4)	26 (0.4)	0 (0.0)	0 (0.0)
Chicago Public Schools, IL	r	0 (0.0)	0 (0.0)	62 (13.3)	33 (11.7)	0 (0.0)	6 (0.8)
Delaware Science Coalition, DE	s	4 (0.7)	3 (2.4)	59 (6.3)	34 (6.4)	0 (0.0)	0 (0.0)
First in the World Consort., IL		4 (1.6)	0 (0.0)	84 (2.5)	12 (3.1)	0 (0.0)	1 (0.8)
Fremont/Lincoln/WestSide PS, NE	r	0 (0.0)	0 (0.0)	50 (7.5)	50 (7.5)	0 (0.0)	0 (0.0)
Guilford County, NC	r	3 (2.1)	2 (0.8)	58 (3.4)	36 (3.8)	1 (1.2)	0 (0.0)
Jersey City Public Schools, NJ	r	0 (0.0)	0 (0.0)	61 (5.2)	39 (5.2)	0 (0.0)	0 (0.0)
Miami-Dade County PS, FL	s	5 (3.5)	0 (0.4)	65 (7.1)	30 (6.0)	0 (0.0)	0 (0.0)
Michigan Invitational Group, MI	r	8 (2.9)	0 (0.0)	61 (6.8)	29 (5.8)	2 (0.1)	0 (0.0)
Montgomery County, MD		x x	x x	x x	x x	x x	x x
Naperville Sch. Dist. #203, IL		0 (0.0)	0 (0.0)	100 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Project SMART Consortium, OH	r	2 (0.1)	0 (0.0)	44 (3.4)	52 (3.4)	2 (0.6)	0 (0.0)
Rochester City Sch. Dist., NY	r	0 (0.0)	0 (0.0)	51 (4.9)	49 (4.9)	0 (0.0)	0 (0.0)
SW Math/Sci. Collaborative, PA		1 (1.2)	0 (0.3)	43 (6.4)	49 (7.5)	6 (5.1)	0 (0.0)
International Avg. (All Countries)		9 (0.4)	4 (0.3)	22 (0.6)	44 (0.8)	6 (0.4)	15 (0.6)

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

Background data provided by teachers.

* Categories of topic coverage for scientific inquiry and the nature of science are based on combined responses to questions about the individual science subtopics in the content area described in Exhibit 5.25.

¹ For each topic in Exhibit 5.25, 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. An "x" indicates teacher response data available for <50% of students.