

TIMSS 1999 USER GUIDE for the INTERNATIONAL DATABASE

IEA's Repeat of the Third International Mathematics
and Science Study at the Eighth Grade



Supplement
Three

3

Variables
Derived from
the Student,
Teacher, and
School
Questionnaires



Boston College
Lynch School
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Supplement 3: Variables Derived from the Student, Teacher and School Questionnaires

This supplement contains documentation on all the derived variables contained in the TIMSS 1999 data files that are based on background questionnaire variables. These variables were used to report background data in the TIMSS 1999 international reports, and are made available as part of this database to be used in secondary analyses. Additionally, this supplement provides the descriptions of the computations performed for certain exhibits in the international reports where data from more than one variable were combined, but the derived variables are not included in the database.

Tables S3.1 through S3.3 in this Supplement list all of the derived student, math teacher, science teacher and school variables published in the TIMSS 1999 International Reports. Following these tables, there are three sections of this supplement corresponding to each background questionnaire type from which the reporting variables are derived. A fourth section describes computations behind some of the exhibits included in the international report.

- Section 1: Student Questionnaire
- Section 2: Teacher Questionnaire
- Section 3: School Questionnaire
- Section 4: Computations

Each of the first three sections includes specific documentation for each derived variable. Each of these sections is organized in alphabetical order by derived variable name and contains the following information about each of the derived background variables:

- Derived Variable Name
- Derived Variable Label
- Description
- Report Location (this is the location in the TIMSS 1999 International Report)
- Source Variable(s): Background Questionnaire variables used to compute the derived variables listed by both Questionnaire Item Location and International Background Variable Name

- Analysis Notes: Descriptions of how the derived variables were computed based on associated source variables
- Missing Rules: Descriptions of the source variable data cleaning and missing rules applied to assign cases to missing for the derived variables
- Trend Status: Indication of whether the variable was also computed for the 1995 database and trends were reported
- National Exclusion or Adaptation Documentation: List of countries that are either excluded from derived variables or for which some documentation is provided regarding national adaptations in their background questionnaire items.

The fourth section includes descriptions of the computation behind some of the exhibits for which derived variables were not included in the database. This section is organized by subject area and report location as it appears in the TIMSS International Report and contains the following information about each of the exhibits:

- Report Location (in the TIMSS 1999 International Mathematics or Science Report)
- Exhibit Title
- Source Variable(s): Background Questionnaire variables used in computations listed by Questionnaire Item Location
- Computations: Description of the computations made which lead to the reported results
- Note(s): Any pertinent information that will aid in the computation or interpretation of the results.

Derived Variables Based on the Student Background Data

Derived variables related to students' attitudes and classroom activities are computed either for science as an integrated subject or for specific science subject areas (biology, chemistry, earth science, physics), depending on whether the general science (SQ2) or separate science (SQ2S) version of the student questionnaire was administered. In the documentation, the source variables and analysis notes refer to the student background questionnaire items by the following definitions:

SQ2-** = Location of background questions in the general science version of the student background questionnaire.

SQ2S-** = Location of background questions pertaining to separate science version of the student background questionnaire.

There are three types of derived variables based on student background data, depending on the questionnaire source(s):

1. Variables related to general/integrated science (BSDS****); these variables contain data only for students in countries that administered the general science form of the questionnaire.
2. Variables related to separate science subject areas (biology or biological science = BSDDB****, chemistry = BSDC****, earth science = BSDE****, and physics or physical science = BSDP****); these variables contain data only for students in countries that administered the separate science version of the questionnaire.
3. Variables related to mathematics or general background information (BSDM**** or BSDG****); these variables contain data for all countries administering either version of the questionnaire.

Chapter 2 of the User Guide indicates which countries administered the separate science and general science versions of the student questionnaire. A few countries modified the questionnaire to include questions for only some of the sciences subject areas or for combined subject-area classes. These special cases are described in Supplement 2, which documents the national adaptations of the background questionnaire items. The effects of these national adaptations on the derived variables are indicated in this Supplement in the corresponding National Exclusion and Adaptation Documentation section.

Derived Variables Based on Teacher Background Data

Since there were two types of Teacher questionnaires, the source variables and analysis notes reference specific background questionnaires according to the following definitions:

TQM2*** = Mathematics Teacher Questionnaire Item

TQS2*** = Science Teacher Questionnaire Item

There are three types of derived variables based on teacher background data, depending on the questionnaire source:

1. Variables asked only of mathematics teachers and related to mathematics classes/teaching (BTDM****).
2. Variables asked only of science teachers and related to science classes/teaching (BTDS****).
3. Variables asked of both mathematics and science teachers and not directly related to mathematics or science instruction (BTDG****).

Note that all science variables were computed for all science teachers. Separation into General/Integrated and Separate Science panels in the international report was based on filtering by the variable ITCOURSE described in Chapter 8 of the User Guide. In countries identified as General/Integrated all ITCOURSE codes were used to select teachers for General/Integrated panels. In countries identified as Separate Science, the teachers were selected using the appropriate ITCOURSE codes:

- Biology: ITCOURSE = 3 or 8
- Chemistry: ITCOURSE = 4
- Physics or Physical Science ITCOURSE = 2 or 7
- Earth Science: ITCOURSE = 5.

Derived Variables Based on School Background Data

One questionnaire was administered to schools. The source variables and analysis notes reference specific background questionnaire items according to the following definitions:

SCQ2*** = School Questionnaire Item

There are three types of derived variables based on school background data, depending on the questionnaire source:

1. School level variables related to mathematics instruction (BCDM***).
2. School level variables related to science instruction (BCDS***).
3. School level variables not directly related to mathematics or science (BCDG***).

Table S3.3 Index of Derived Background Variables for the TIMSS 1999 School Questionnaire

Variable Name	Location in Mathematics Report	Location in Science Report	Label
BCDGAAIT	Exhibit 6.4	Exhibit 6.4	GENYEARLY INSTRUCTIONAL TIME IN HRS
BCDGADMIN	Exhibit 7.3	Exhibit 7.3	GENHRS. ON ADMINISTRATIVE WORK
BCDGAYTS	Exhibit R3.7	Exhibit R3.7	GENYEARLY TOTAL TIME IN SCHOOL IN HRS
BCDGCARC	Exhibit R4.3	Exhibit R4.3	GENAVAILABILITY OF COMPUTERS IN CAT.
BCDGCARC	Exhibit 7.3	Exhibit 7.3	GENHRS. ON COMMUNICATING W/PARE./STU.
BCDGINST	Exhibit 7.3	Exhibit 7.3	GENHRS. ON INSTRUCTION LEADERSHIP
BCDGINT	Exhibit R4.4	Exhibit R4.4	GENACCESS TO INTERNET
BCDGPHSI	Exhibit R3.7	Exhibit R3.7	GEN% OF HRS SPENT ON INSTRUCTION
BCDGSA	Exhibit 7.5	Exhibit 7.5	GENSCHOOL ATTENDANCE
BCDGSERV	Exhibit 7.4	Exhibit 7.4	GENEXPECT PARENTS SERVE ON COMMITTEES
BCDGTAC	Exhibit 7.3	Exhibit 7.3	GENHRS. ON TEACHING
BCDGVOL	Exhibit 7.4	Exhibit 7.4	GENEXPECT PARENTS AS VOLUNTEER...
BCDMASR	Exhibit 7.1	~~	MATAVAILABILITY OF SCH. RES. FOR MATH
BCDMMOIN	Exhibit R2.2	~~	MATMETHODS OF INSTRUCTION
BCDSASR	~~	Exhibit 7.1	SCIAVAILABILITY OF SCH. RES. FOR SCI
BCDSMOIN	~~	Exhibit R2.2	SCIMETHODS OF INSTRUCTION

Table S3.1 Index of Derived Background Variables for the TIMSS 1999 Student Questionnaire

Variable Name	Location in Mathematics Report	Location in Science Report	Label
BSDAGE	Exhibit 1.1	Exhibit 1.1	GEN\STUDENTS' AGE
BSDBCSAI	~~	Exhibit 4.8	SCI\INDEX OF CONFIDENCE IN BIOLOGY ABILITY
BSDBPATS	~~	Exhibit 4.10	SCI\POSITIVE ATTITUDE\TOWARD BIOLOGY
BSDCCSAI	~~	Exhibit 4.8	SCI\INDEX OF CONFIDENCE IN CHEMISTRY ABILITY
BSDCPATS	~~	Exhibit 4.10	SCI\POSITIVE ATTITUDE\TOWARD CHEMISTRY
BSDECSAI	~~	Exhibit 4.8	SCI\INDEX OF CONFIDENCE IN EARTH SCIENCE ABILITY
BSDEPATS	~~	Exhibit 4.10	SCI\POSITIVE ATTITUDE\TOWARD EARTH SCIENCE
BSDGDAY9	Exhibit R1.11	Exhibit R1.11	GEN\OUTSIDE SCHL\STUDY OTHER SUBJ
BSDGEDUP	Exhibit R1.5	Exhibit R1.5	GEN\HIGHEST EDUC LEVEL\PARENTS
BSDGHERI	Exhibit 4.1	Exhibit 4.1	GEN\INDEX OF HOME EDUCATIONAL RESOURCES
BSDGOSTI	Exhibit 4.5	Exhibit 4.5	GEN\OUT-OF-SCHOOL STUDY TIME
BSDGPSA	Exhibit R1.1	Exhibit R1.1	GEN\POSSESS ALL\COMPUTER\DESK\DICTIONARY
BSDGSALL	Exhibit R1.11	Exhibit R1.11	GEN\OUTSIDE SCHL\STUDY ALL 3 FIELDS
BSDGSTDT	Exhibit R1.11	Exhibit R1.11	GEN\DAILY HOURS SPENT STUDYING (DPC)
BSDMCMAI	Exhibit 4.8	~~	MAT\INDEX OF CONFIDENCE IN MATH ABILITY
BSDMDAY7	Exhibit R1.11	Exhibit R1.11	MAT\OUTSIDE SCHL\STUDY MATH
BSDMPATM	Exhibit 4.10	~~	MAT\POSITIVE ATTITUDE\TOWARD MATHEMATICS
BSDPCSAI	~~	Exhibit 4.8	SCI\INDEX OF CONFIDENCE IN PHYSICS ABILITY
BSDPPATS	~~	Exhibit 4.10	SCI\POSITIVE ATTITUDE\TOWARD PHYSICS
BSDSCSAI	~~	Exhibit 4.8	SCI\INDEX OF CONFIDENCE IN SCIENCE ABILITY
BSDSDAY8	Exhibit R1.11	Exhibit R1.11	SCI\OUTSIDE SCHL\STUDY SCIENCE
BSDSPATS	~~	Exhibit 4.10	SCI\POSITIVE ATTITUDE\TOWARD SCIENCE

Table S3.2 Index of Derived Background Variables for the TIMSS 1999 Mathematics and Science Teacher Questionnaires

Variable Name	Location in Mathematics Report	Location in Science Report	Label
BTDGADMN	Exhibit R3.8	Exhibit R3.8	GEN% OF SCHOOL TIME ADMIN. DUTIES
BTDGCPLN	Exhibit R3.8	Exhibit R3.8	GEN% OF SCHOOL TIME CURRI.PLANNING
BTDGMMJ1	Exhibit R3.1	--	MATMAJOR AREA OF STUDY FOR DEG:Math
BTDGMMJ2	Exhibit R3.1	--	MATMAJOR AREA OF STUDY FOR DEG:Math Ed
BTDGMMJ3	Exhibit R3.1	--	MATMAJOR AREA OF STUDY FOR DEG:Sc/Sc Ed
BTDGMMJ4	Exhibit R3.1	--	MATMAJOR AREA OF STUDY FOR DEG:Educ
BTDGMMJ5	Exhibit R3.1	--	MATMAJOR AREA OF STUDY FOR DEG:Other
BTDGOTHR	Exhibit R3.8	Exhibit R3.8	GEN% OF SCHOOL TIME OTHER ACTIVIT.
BTDGSMJ1	--	Exhibit R3.1	SCI\MAJOR AREA OF STUDY BIOLOGY
BTDGSMJ2	--	Exhibit R3.1	SCI\MAJOR AREA OF STUDY PHYSICS
BTDGSMJ3	--	Exhibit R3.1	SCI\MAJOR AREA OF STUDY CHEMISTRY
BTDGSMJ4	--	Exhibit R3.1	SCI\MAJOR AREA OF STUDY SCIENCE EDUC
BTDGSMJ5	--	Exhibit R3.1	SCI\MAJOR AREA OF STUDY MATHEMATICS
BTDGSMJ6	--	Exhibit R3.1	SCI\MAJOR AREA OF STUDY EDUCATION
BTDGSMJ7	--	Exhibit R3.1	SCI\MAJOR AREA OF STUDY OTHER
BTDGSUBT	Exhibit R3.8	Exhibit R3.8	GEN\TOTAL HOURS TEACH. TIME
BTDGTSKT	Exhibit R3.8	Exhibit R3.8	GEN\TOTAL HOURS PERF. OTHER TASKS
BTDGTTIM	Exhibit R3.8	Exhibit R3.8	GEN% OF SCHOOL TIME TEACHING ANYTHING
BTDMCALC	Exhibit R3.14	--	MAT\NEVER OR HARDLY EVER USE CALCUL.
BTDMCPTM	Exhibit 6.3	--	MAT\INDEX OF CONFIDENCE TO TEACH MATH
BTDMEMH	Exhibit 6.21	--	MAT\INDEX:EMPHASIS ON MATH HOMEWORK
BTDMERPS	Exhibit 6.13	--	MAT\INDEX:EMPHASIS ON PROB.SOLVING
BTDMHTM	Exhibit 6.5	--	MAT\HRS/WK TEACHING MATH
BTDMHWK	Exhibit R3.15	--	MAT\AMOUNT OF MATH HOMEWORK
BTDMHWK2	Exhibit R3.16	--	MAT\HOMEWORK BASED ON PROJ. & INVEST.
BTDMMGRD	Exhibit 6.2	--	MAT\HAVE BA OR MASTERS IN MATH
BTDMQUA	Exhibit 6.2	--	MAT\QUALIFICATION TO TEACH MATH
BTDMSIZE	Exhibit 6.8	--	MAT\AVERAGE CLASS SIZE
BTDMSZ3C	Exhibit 6.8	--	MAT\MATH CLASS SIZE IN 3 CATEGORIES
BTDMTIME	Exhibit 6.5	--	MAT\TEACHING MATH TIME /WK IN 4 CAT.
BTDMTPTT	Exhibit R3.2	--	MAT%\% OF MATH TOPICS PREPARED TO TEACH
BTDMTTIM	Exhibit R3.8	--	MAT%\% OF SCHOOL TIME TEACHING MATH
BTDSBGRD	--	Exhibit 6.2	SCI\HAVE BA OR MASTERS IN BIOLOGY
BTDSBQUA	--	Exhibit 6.2	SCI\QUALIFICATION TO TEACH BIOLOGY
BTDS CGRD	--	Exhibit 6.2	SCI\HAVE BA OR MASTERS IN CHEMISTRY
BTDS CPTS	--	Exhibit 6.3	SCI\INDEX OF CONFIDENCE TEACH SCIENCE
BTDS CQUA	--	Exhibit 6.2	SCI\QUALIFICATION TO TEACH CHEMISTRY
BTDS EGRD	--	Exhibit 6.2	SCI\HAVE BA OR MASTERS IN EARTH SCI
BTDS EQUA	--	Exhibit 6.2	SCI\QUALIFICATION TO TEACH EARTH SCI
BTDS ERPS	--	Exhibit 6.12	SCI\INDEX:EMPHASIS ON PROB.SOLVING
BTDS ESH	--	Exhibit 6.18	SCI\INDEX:EMPHASIS ON SCIENCE HOMEWORK
BTDS HTS	--	Exhibit 6.5	SCI\HRS/WK TEACHING SCIENCE
BTDS HWK	--	Exhibit R3.16	SCI\AMOUNT OF SCIENCE HOMEWORK
BTDS HWK2	--	Exhibit R3.17	SCI\HOMEWORK BASED ON PROJ. & INVEST.
BTDS PGRD	--	Exhibit 6.2	SCI\HAVE BA OR MASTERS IN PHYS/PHYS SCI
BTDS PQUA	--	Exhibit 6.2	SCI\QUAL. TO TEACH PHYS/PHYS SCI
BTDS SGRD	--	Exhibit 6.2	SCI\HAVE BA OR MASTERS IN GENERAL SCI
BTDS SIZE	--	Exhibit 6.7	SCI\AVERAGE CLASS SIZE
BTDS SQUA	--	Exhibit 6.2	SCI\QUALIFICATION TO TEACH GENERAL SCI
BTDS SZ3C	--	Exhibit 6.7	SCI\SCIENCE CLASS SIZE IN 3 CATEGORIES
BTDSTIME	--	Exhibit 6.5	SCI\CLSS\LENGTH OF SCIENCE CLASS
BTDSTPTT	--	Exhibit R3.2	SCI%\% SCIENCE TOPICS PREPARED TO TEACH
BTDSTTIM	--	Exhibit R3.8	SCI%\% OF SCHOOL TIME TEACH. SCIENCE

Section 1

Derived Variable Name: BSDBCSAI**Label:** SCI\INDEX OF CONFIDENCE IN BIOLOGY ABILITY

Description: Index of students' self-concept in biology**Report Location:** 4.8 Science**Source Variable(s):** SQ2S-19a-d
(BSBSBYT1-4)**Notes:** Based on students' responses to the following questions regarding biology using a four point Likert scale of Strongly Agree (1), Agree (2), Disagree (3), Strongly Disagree (4):

- a) I would like biology much more if it were not so difficult.
- b) Although I do my best, biology is more difficult for me than for many of my classmates.
- c) Nobody can be good in every subject, and I am just not talented in biology.
- d) Biology is not one of my strengths.

Index assigned three levels:

High (3) = Student responds Strongly Disagree or Disagree to all 4 questions (a, b, c, and d = 3 or 4);

Low (1) = Student responds Strongly Agree or Agree to all 4 questions (a, b, c, and d = 1 or 2);

Medium (2) = all other combinations.

Missing: Index may be computed based on 3 out of 4 of the required variables; if missing more than one component variable, then coded as missing for the index.**Trend Status:** Trend data are not reported / not available.

Country	Code	Comment
All General / Integrated	X	Only countries reporting teaching science as separate subjects are included in this variable.
Russian Federation	D	Data not available for 19a; index computed on remaining variables. If missing more than 19a, coded as missing.

Derived Variable Name: BSDBPATS**Label:** SCI\POSITIVE ATTITUDE\TOWARD BIOLOGY

Description: Index of students' positive attitudes towards biology**Report Location:** 4.10 Science, 4.12 Science**Source Variable(s):** SQ2S-24b; 32a, b, d, e
(BSBBLIKB; BSBBENJY, BSBBBORE, BSBBEASY, BSBBLIFE, BSBBWORK)**Notes:** Based on students' responses to the following questions regarding biology based on a four-point Likert scale of Strongly Agree (1), Agree (2), Disagree (3), Strongly Disagree (4):

24b) I like biology.
32a) I enjoy learning biology.
32b) Biology is boring.
32d) Biology is important to everyone's life.
32e) I would like a job that involved using biology.

Index based on the rounded average of the responses to the 5 questions, ranging from most negative to most positive. Reverse-scale values are used for SQ2(s)-24b; and SQ2(s)-32a,d,e.

Index assigned to three levels:
Low (1) = average of 1 - 2;
Medium (2) = average of > 2 - 3;
High (3) = average of > 3 - 4.

Missing: Index may be computed based on 4 out of 5 of the required variables; if missing more than one component variable, then coded as missing for the index.**Trend Status:** Trend data are reported with the exception of Bulgaria and South Africa: no comparable data available in 1995.

Country	Code	Comment
All General / Integrated	X	Only countries reporting teaching science as separate subjects are included in this variable.

Derived Variable Name: BSDCCSAI**Label:** SCI\INDEX OF CONFIDENCE IN CHEMISTRY ABILITY

Description: Index of students' self-concept in chemistry**Report Location:** 4.8 Science**Source Variable(s):** SQ2S- 21a-d
(BSBSCYT1-4)**Notes:** Based on students' responses to the following questions regarding chemistry using a four point Likert scale of Strongly Agree (1), Agree (2), Disagree (3), Strongly Disagree (4):

- a) I would like chemistry much more if it were not so difficult.
- b) Although I do my best, chemistry is more difficult for me than for many of my classmates.
- c) Nobody can be good in every subject, and I am just not talented in chemistry.
- d) Chemistry is not one of my strengths.

Index assigned to three levels:

High (3) = Student responds Strongly Disagree or Disagree to all 4 questions (a, b, c, and d = 3 or 4);

Low (1) = Student responds Strongly Agree or Agree to all 4 questions (a, b, c, and d = 1 or 2);

Medium (2) = all other combinations.

Missing: Index may be computed based on 3 out of 4 of the required variables; if missing more than one component variable, then coded as missing for the index.**Trend Status:** Trend data are not reported / not available.

Country	Code	Comment
All General / Integrated	X	Only countries reporting teaching science as separate subjects are included in this variable.
Belgium (Flemish)	X	Data not available for source variable(s).
Netherlands	X	Data not available for source variable(s).

Derived Variable Name: BSDCPATS**Label:** SCI\POSITIVE ATTITUDE\TOWARD CHEMISTRY

Description: Index of students' positive attitudes towards chemistry**Report Location:** 4.10 Science, 4.12 Science**Source Variable(s):** SQ2S-24d; 36a, b, d, e
(BSBCLIKC; BSBCENJY, BSBCBORE, BSBCLIFE, BSBCWORK)**Notes:** Based on students' responses to the following questions regarding chemistry based on a four-point Likert scale of Strongly Agree (1), Agree (2), Disagree (3), Strongly Disagree (4):

24d) I like chemistry.
36a) I enjoy learning chemistry.
36b) Chemistry is boring.
36d) Chemistry is important to everyone's life.
36e) I would like a job that involved using chemistry.

Index based on the rounded average of the responses to the 5 questions, ranging from most negative to most positive. Reverse-scale values are used for SQ2(s)-24d; and SQ2(s)-36a,d,e.

Index assigned to three levels:
Low (1) = average of 1 - 2;
Medium (2) = average of > 2 - 3;
High (3) = average of > 3 - 4.

Missing: Index may be computed based on 4 out of 5 of the required variables; if missing more than one component variable, then coded as missing for the index.**Trend Status:** Trend data are reported with the exception of Bulgaria and South Africa: no comparable data available in 1995.

Country	Code	Comment
All General / Integrated	X	Only countries reporting teaching science as separate subjects are included in this variable.
Belgium (Flemish)	X	Data not available for source variable(s).
Netherlands	X	Data not available for source variable(s).

Derived Variable Name: BSDECSAI**Label:** SCI\INDEX OF CONFIDENCE IN EARTH SCIENCE ABILITY

Description: Index of students' self-concept in Earth science**Report Location:** 4.8 Science**Source Variable(s):** SQ2S-20a-d
(BSBSEYT1-4)**Notes:** Based on students' responses to the following questions regarding Earth science using a four point Likert scale of Strongly Agree (1), Agree (2), Disagree (3), Strongly Disagree (4):

- a) I would like Earth science much more if it were not so difficult.
- b) Although I do my best, Earth science is more difficult for me than for many of my classmates.
- c) Nobody can be good in every subject, and I am just not talented in Earth science.
- d) Earth science is not one of my strengths.

Index assigned three levels:

High (3) = Student responds Strongly Disagree or Disagree to all 4 questions (a, b, c, and d = 3 or 4);

Low (1) = Student responds Strongly Agree or Agree to all 4 questions (a, b, c, and d = 1 or 2);

Medium (2) = all other combinations.

Missing: Index may be computed based on 3 out of 4 of the required variables; if missing more than one component variable, then coded as missing for the index.**Trend Status:** Trend data are not reported / not available.

Country	Code	Comment
All General / Integrated	X	Only countries reporting teaching science as separate subjects are included in this variable.
Latvia	X	Data not available for source variable(s).
Lithuania	X	Data not available for source variable(s).
Slovenia	X	Data not available for source variable(s).
Russian Federation	D	Data not available for 20a; index computed on remaining source variables. If missing more than 20a, coded as missing.

Derived Variable Name: BSDEPATS**Label:** SCI\POSITIVE ATTITUDE\TOWARD EARTH SCIENCE

Description: Index of students' positive attitudes towards Earth science**Report Location:** 4.10 Science, 4.12 Science**Source Variable(s):** SQ2S-24c; 40a, b, d, e
(BSBEENJY, BSBEBORE, BSBELIFE, BSBEWORK)**Notes:** Based on students' responses to the following questions regarding Earth science based on a four-point Likert scale of Strongly Agree (1), Agree (2), Disagree (3), Strongly Disagree (4):

- 24c) I like Earth science.
- 40a) I enjoy learning Earth science.
- 40b) Earth science is boring.
- 40d) Earth science is important to everyone's life
- 40e) I would like a job that involved using Earth science

Index based on the rounded average of the responses to the 5 questions, ranging from most negative to most positive. Reverse-scale values are used for SQ2(s)-24c; and SQ2(s)-40a,d,e.

Index assigned to three levels:
Low (1) = average of 1 - 2;
Medium (2) = average of > 2 - 3;
High (3) = average of >3 - 4.

Missing: Index may be computed based on 4 out of 5 of the required variables; if missing more than one component variable, then coded as missing for the index.**Trend Status:** Trend data are reported with the exception of Bulgaria and South Africa: no comparable data available in 1995.

Country	Code	Comment
All General / Integrated	X	Only countries reporting teaching science as separate subjects are included in this variable.
Lithuania	X	Data not available for source variable(s).
Latvia	X	Data not available for source variable(s).
Slovenia	X	Data not available for source variable(s).
Netherlands	D	Data not available for SQ2-24a; index computed on remaining source variables. If missing more than 24c, coded as missing.

Derived Variable Name: BSDGEDUP**Label:** GEN\HIGHEST EDUC LEVEL\PARENTS

Description: Students' reports of parents' education level**Report Location:** R1.5 Math, R1.5 Science**Source Variable(s):** SQ2-7a, b
SQ2S-7a,b
(BSBGEDMO, BSBGEDFA)**Notes:** Derived from students' responses to two separate questions concerning the highest education level of their mother (SQ2-7a) and their father (SQ2-7b). Reported the higher education level of mother or father (7a or 7b).

The international definitions of response categories for SQ2-7a,b are:

- a) some primary school, or did not go to school
- b) finished primary school
- c) some secondary school
- d) finished secondary school
- e) some vocational/technical education after secondary school
- f) some university
- g) finished university
- h) I don't know

For the derived variable BSDGEDUP, the education categories were combined into 5 reporting categories, defined as:

- 1: Finished University (g)
- 2: Finished Secondary School (d), Some Vocational/Technical After Secondary (e), or Some University (f)
- 3: Finished Primary (b) or Finished Some Secondary (c)
- 4: Some Primary School or Did not go to School (a)
- 5: Do Not Know (h) or if education of neither parent is known (both = Don't Know or one = Don't know and one = missing).

Modified national response categories were used in some countries to conform to their own educational system. In these cases, national options were recoded to match as closely as possible the international definitions. The national education levels contained in each of the educational categories are described in the national adaptation documentation in Supplement 2.

Missing: Coded as missing only if BOTH variables are missing.**Trend Status:** Trend data are not reported / not available.

Country	Code	Comment
England	X	Data not available for source variable(s).
Japan	X	Data not available for source variable(s).

Derived Variable Name: BSDGHERI**Label:** GEN\INDEX OF HOME EDUCATIONAL RESOURCES

Description: Students' reports of home educational resources

Report Location: 4.1 Math, 4.1 Science

Source Variable(s): SQ2-10; 11b, c, d; 7a, b
SQ2S-10; 11b,c,d; 7a,b
(BSBGBOOK; BSBGPS02-4; BSBGEDMO, BSBGEDFA)

Notes: Based on student's responses to the following variables:

1. Number of books in the home (SQ2-10)
2. Educational aids in the home: computer, study desk/table for own use, dictionary (SQ2-11b,c,d)
3. Parents' education (mother's and father's: SQ2-7a,b)

Index assigned to three levels:

High (3) = Have more than 100 books in the home (SQ2-10 = d or e); Have all three educational aids (SQ2-11 b, c, and d = YES); and EITHER parents' highest level of education is finished university (SQ2-7a OR 7b = g).

Low (1) = Have 25 or fewer books in the home (SQ2-10 = a or b); Do not have all three educational aids (two or fewer of SQ2-11b, c, d = YES); and BOTH parents' highest level of education is some secondary or less or Don't Know (both SQ2-7a AND 7b = a, b, c, or h).

Medium(2) = all other combinations. Compute percent of students and average achievement for students at each level.

Missing: Coded as missing if missing more than one source variable.

Trend Status: Trend data are not reported / not available.

Country	Code	Comment
England	X	Data not available for source variable(s).
Japan	X	Data not available for source variable(s).
Finland	X	Data not included in derived variable but retained in source variable(s) per NRC request.

Derived Variable Name: BSDGOSTI	Label: GEN\OUT-OF-SCHOOL STUDY TIME
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Description: Students' reports on hours spent each day studying or doing homework in any subject

Report Location: 4.5 Math, 4.6 Math
4.5 Science, 4.6 Science

Source Variable(s): SQ2-6g, h, i
SQ2S-6g,h,i
(BSBGDAY7-9)

Notes: Based on students' responses to the following questions:
1) Time spent after school studying mathematics or doing mathematics homework (SQ2-6g).
2) Time spent after school studying science or doing science homework (SQ2-6h).
3) Time spent after school studying or doing homework in school subjects other than mathematics and science (SQ2-6i).

Students' responses are converted to numeric values (a = 0, b = 0.5, c = 1.5, d = 4, e = 7) and then summed (BSDGSTDT).

Index assigned to three levels:
High (3) = Student reports spending more than 3 hours studying all subjects combined (BSDGSTDT >3);
Low (1) = Student reports spending one hour or less studying all subjects combined (BSDGSTDT =<1);
Medium (2) = Student reports spending more than one hour to 3 hours studying all subjects combined (BSDGSTDT >1 <=3).

Missing: Coded as missing if missing any source variable. Recoded outliers >7 in derived variable (BSDGSTDT) to missing.

Trend Status: Trend data are reported with the exception of Bulgaria and South Africa: no comparable data available in 1995.

Country	Code	Comment
England	X	Data not available for source variable(s).

Derived Variable Name: BSDGPSA	Label: GEN\POSSESS ALL\COMPUTER\DESK\DICTIONARY
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Description: Students' reports about having educational aids in the home

Report Location: R1.1 Math, R1.2 Math
R1.1 Science, R1.2 Science

Source Variable(s): SQ2-11b, c, d
SQ2S-11,b,c,d
(BSBGPS02-4)

Notes: Coded into 2 categories based on student responses to three separate questions about having a dictionary (11b), study desk/table (11c), and computer (11d) in the home:
1 = Yes if all 3 responses to SQ2-11b,c,d are Yes (1);
2 = No if any of SQ2-11b,c,d are No (2).

Missing: Coded as missing if any source variable is missing.

Trend Status: Trend data are reported with the exception of Bulgaria, Hungary, Lithuania, Japan and South Africa: no comparable data available in 1995.

Country	Code	Comment
All		Data considered internationally comparable for reporting

Derived Variable Name: BSDGSALL**Label:** GEN\OUTSIDE SCHL\STUDY ALL 3 FIELDS

Description: Students' reports on whether they spent some time each day studying or doing homework in each subject (math, science, and other)**Report Location:** R1.11 Math, R1.12 Math
R1.11 Science, R1.12 Science**Source Variable(s):** SQ2-6g, h, i
SQ2S-6,g,h,i
(BSBGDAY7-9)**Notes:** Based on students' responses to three questions about time spent doing homework in math, science, and other subjects recoded to numerical values (BSDMDAY7, BSDMDAY8, BSDMDAY9)

Average hours for SQ2-6g,h,i are computed using recoded responses:

0 = No time;
.5 = less than 1 hour;
1.5 = 1-2 hours;
4 = 3-5 hours;
7 = more than 5 hours.

BSGDSALL assigned two levels:

1 = Spent some time studying all three subject areas (ALL of BSDMDAY7, BSDMDAY8, BSDMDAY9 > 0);
2 = Did not spend time studying in all three subject areas (at least one of BSDMDAY7, BSDMDAY8, BSDMDAY9 = 0).**Missing:** Coded as missing if any source variable is missing.**Trend Status:** Trend data are reported with the exception of Bulgaria and South Africa: no comparable data available in 1995.

Country	Code	Comment
England	X	Data not available for source variable(s).

Derived Variable Name: BSDGSTDT**Label:** GEN\DAILY HOURS SPENT STUDYING (DPC)**Description:** Students' reports on total hours spent each day studying or doing homework across subjects**Report Location:** R1.11 Math, R1.12 Math
R1.11 Science, R1.12 Science**SourceVariable(s):** SQ2-6g, h, i
SQ2S-6,g,h,i
(BSBGDAY7-9)**Notes:** Sum of hours spent studying or doing homework in math (BSBGDAY7), science (BSBGDAY8), and other subjects (BSBGDAY9).

Total hours are computed using SQ2-6g,h,i recoded responses:

0 = No time;
.5 = less than 1 hour;
1.5 = 1-2 hours;
4 = 3-5 hours;
7 = more than 5 hours.**Missing:** Coded as missing if any source variable is missing.**Trend Status:** Trend data are reported with the exception of Bulgaria and South Africa: 1995 background data are not available.

Country	Code	Comment
England	X	Data not available for source variable(s).

Derived Variable Name: BSDMCMAI**Label:** MAT\INDEX OF CONFIDENCE IN MATH ABILITY**Description:** Index of students' self-concept in mathematics**Report Location:** 4.8 Math**SourceVariable(s):** SQ2-17a-e
SQ2S-17a-e
(BSBMMYT1-5)**Notes:** Based on students' responses to the following questions based on a four-point Likert scale of Strongly Agree (1), Agree (2), Disagree (3), Strongly Disagree (4):

- a) I would like mathematics much more if it were not so difficult
- b) Although I do my best, mathematics is more difficult for me than for many of my classmates
- c) Nobody can be good in every subject, and I am just not talented in mathematics
- d) Sometimes, when I do not understand a new topic in mathematics, I know that I will never really understand it
- e) Mathematics is not one of my strengths

Index assigned to three levels:
High (3) = Student responds Strongly Disagree or Disagree to all questions (17a-e = 3 or 4);
Low (1) = Student responds Strongly Agree or Agree to all questions (17a-e = 1 or 2);
Medium (2) = All other combinations.**Missing:** Coded as missing if any source variable is missing.**Trend Status:** Trend data are not reported / not available.

Country	Code	Comment
Russian Federation	D	Data not available for SQ2-17a; index computed on remaining source variables. If missing more than 17a, then coded as missing.

Derived Variable Name: BSDMDAY7 **Label:** MAT\OUTSIDE SCHL\STUDY MATH

Description: Students' reports of hours spent each day studying math or doing math homework**Report Location:** 4.7 Math**Source Variable(s):** SQ2-6g
(BSBGDAY7)**Notes:** Hours based on response categories recoded to numerical values:

0 = No time;
.5 = less than 1 hour;
1.5 = 1-2 hours;
4 = 3-5 hours;
7 = more than 5 hours.

Missing: Coded as missing if any source variable is missing.**Trend Status:** Trend data are reported with the exception of Bulgaria and South Africa: no comparable data available in 1995.

Country	Code	Comment
England	X	Data not available for source variable(s).

Derived Variable Name: BSDMDAY8 **Label:** SCI\OUTSIDE SCHL\STUDY SCIENCE

Description: Students' reports of hours spent each day studying science or doing science homework**Report Location:** 4.7 Science**Source Variable(s):** SQ2-6h
(BSBGDAY8)**Notes:** Hours based on response categories recoded to numerical values:

0 = No time;
.5 = less than 1 hour;
1.5 = 1-2 hours;
4 = 3-5 hours;
7 = more than 5 hours.

Missing: Coded as missing if any source variable is missing.**Trend Status:** Trend data are reported with the exception of Bulgaria and South Africa: no comparable data available in 1995.

Country	Code	Comment
England	X	Data not available for source variable(s).

Derived Variable Name: BSDMDAY9**Label:** GEN\OUTSIDE SCHL\STUDY OTHER SUBJ

Description: Students' reports on hours spent each day studying or doing homework in subjects other than mathematics or science**Report Location:** R1.11 Math, R1.12 Math
R1.11 Science, R1.12 Science**Source Variable(s):** SQ2-6i
SQ2S-6i
(BSBGDAY9)**Notes:** Hours based on response categories recoded to numerical values:0 = No time;
.5 = less than 1 hour;
1.5 = 1-2 hours;
4 = 3-5 hours;
7 = more than 5 hours.**Missing:** Coded as missing if any source variable is missing.**Trend Status:** Trend data are reported with the exception of Bulgaria and South Africa: no comparable data available in 1995.

Country	Code	Comment
England	X	Data not available for source variable(s).

Derived Variable Name: BSDMPATM**Label:** MAT\POSITIVE ATTITUDE\TOWARD MATHEMATICS

Description: Index of students' positive attitudes towards mathematics**Report Location:** 4.10 Math, 4.12 Math**Source Variable(s):** SQ2-21a or SQ2S-24a; SQ2-24a or SQ2S-27a; SQ2-24b or SQ2S-27b; SQ2-24d or SQ2S-27d; SQ2-24e or SQ2S-27e

(BSBMLIKM; BSBMENJY; BSBMBORE; BSBMLIFE; BSBMWORK)

Notes: Based on students' responses to the following questions based on a four-point Likert scale of Strongly Agree (1), Agree (2), Disagree (3), Strongly Disagree (4):

- 1) I like mathematics (SQ2-21a or SQ2S-24a);
- 2) I enjoy learning mathematics (SQ2-24a or SQ2S-27a) ;
- 3) Mathematics is boring (SQ2-24b or SQ2S-27b) ;
- 4) Mathematics is important to every one's life (SQ2-24d or SQ2S-27d);
- 5) I would like a job that involved using mathematics (SQ2-24e or SQ2S-27e).

Index of overall attitudes is based on the rounded average of responses to the above statements, ranging from most negative to most positive. Reverse-scale values are used for SQ2-21a and SQ2S-24a; SQ2-24a, d and e and SQ2S-27a,d,e.

Index assigned to three levels:

Low (1) = average of 1 - 2;

Medium (2) = average of > 2 - 3;

High (3) = average of > 3 - 4.

Missing: Coded as missing if missing more than one source variable.**Trend Status:** Trend data are reported with the exception of Bulgaria and South Africa: no comparable data available in 1995.

Country	Code	Comment
Netherlands	D	Data not available SQ2S-24a; index computed on remaining source variables. If missing more than 24a, then coded as missing.

Derived Variable Name: BSDPCSAI**Label:** SCI\INDEX OF CONFIDENCE IN PHYSICS ABILITY

Description: Index of students' self-concept in physics**Report Location:** 4.8 Science**Source Variable(s):** SQ2S-22a-d
(BSBSPYT1-4)**Notes:** Based on students' responses to the following questions regarding physics using a four point Likert scale of Strongly Agree (1), Agree (2), Disagree (3), Strongly Disagree (4):

- a) I would like physics much more if it were not so difficult.
- b) Although I do my best, physics is more difficult for me than for many of my classmates.
- c) Nobody can be good in every subject, and I am just not talented in physics.
- d) Physics is not one of my strengths.

Index assigned to three levels:

High (3) = Student responds Strongly Disagree or Disagree to all 4 questions (a, b, c, and d = 3 or 4);

Low (1) = Student responds Strongly Agree or Agree to all 4 questions (a, b, c, and d = 1 or 2);

Medium (2) = all other combinations.

Missing: Index may be computed based on 3 out of 4 of the required variables; if missing more than one component variable, then coded as missing for the index.**Trend Status:** Trend data are not reported / not available.

Country	Code	Comment
All General / Integrated	X	Only countries reporting teaching science as separate subjects are included in this variable.
Russian Federation	X	Data not available for 19a; index computed on remaining source variables. If missing more than 19a, coded as missing.

Derived Variable Name: BSDPPATS**Label:** SCI,POSITIVE ATTITUDE,TOWARD PHYSICS

Description: Index of students' positive attitudes towards physics**Report Location:** 4.10 Science, 4.12 Science**Source Variable(s):** SQ2S-24e; 44a, b, d, e
(BSBPLIKP; BSBPENJY, BSBPBORE, BSBPLIFE, BSBPWORK)**Notes:** Based on students' responses to the following questions regarding physics based on a four-point Likert scale of Strongly Agree (1), Agree (2), Disagree (3), Strongly Disagree (4):

24e) I like physics
44a) I enjoy learning physics
44b) Physics is boring
44d) Physics is important to everyone's life
44e) I would like a job that involved using physics

Index based on the rounded average of the responses to the 5 questions, ranging from most negative to most positive. Reverse-scale values are used for SQ2(s)-24e; and SQ2(s)-44a,d,e.

Index assigned to three levels:
Low (1) = average of 1 - 2;
Medium (2) = average of > 2 - 3;
High (3) = average of > 3 - 4.

Missing: Index may be computed based on 4 out of 5 of the required variables; if missing more than one component variable, then coded as missing for the index.**Trend Status:** Trend data are reported with the exception of Bulgaria and South Africa: no comparable data available in 1995.

Country	Code	Comment
All General / Integrated	X	Only countries reporting teaching science as separate subjects are included in this variable.
Netherlands	D	Data pertain to physics/chemistry course. Data not available for 24e; index computed on remaining source variables. If missing more than 24e, coded as missing.

Derived Variable Name: BSDSCSAI**Label:** SCI\INDEX OF CONFIDENCE IN SCIENCE ABILITY

Description: Index of students' self-concept in science**Report Location:** 4.8 Science**Source Variable(s):** SQ2-19a-d
(BSBSSYT1-4)**Notes:** Based on students' responses to the following questions regarding General/Integrated science using a four point Likert scale of Strongly Agree (1), Agree (2), Disagree (3), Strongly Disagree (4):

- a) I would like science much more if it were not so difficult.
- b) Although I do my best, science is more difficult for me than for many of my classmates.
- c) Nobody can be good in every subject, and I am just not talented in science.
- d) Science is not one of my strengths.

Index assigned to three levels:

High (3) = Student responds Strongly Disagree or Disagree to all 4 questions (a, b, c, and d = 3 or 4);

Low (1) = Student responds Strongly Agree or Agree to all 4 questions (a, b, c, and d = 1 or 2);

Medium (2) = all other combinations.

Missing: Index may be computed based on 3 out of 4 of the required variables; if missing more than one component variable, then coded as missing for the index.**Trend Status:** Trend data are not reported / not available.

Country	Code	Comment
All Separate Science	X	Only countries reporting teaching science as a general/integrated subject are included in this variable.
Thailand	D	Data not available for SQ2-19a; index computed on remaining source variables. If missing more than 19a, then coded as missing.
Indonesia	D	Students were asked about "IPA" science; data pertain to composite course taught by biology and physics teachers
Chinese Taipei	D	Students were asked about "natural science"; data pertain to grade 8 physics/chemistry course

Derived Variable Name: BSDSPATS**Label:** SCI,POSITIVE ATTITUDE,TOWARD SCIENCE

Description: Index of students' positive attitudes towards General/Integrated science**Report Location:** 4.10 Science, 4.12 Science**Source Variable(s):** SQ2-21b; 29a, b, d, e
(BSBSLIKS; BSBSNJY, BSBSBORE, BSBSLIFE, BSBWORK)**Notes:** Based on students' responses to the following regarding general / integrated science based on a four-point Likert scale of Strongly Agree (1), Agree (2), Disagree (3), Strongly Disagree (4):

- 21b) I like science.
- 29a) I enjoy learning science.
- 29b) Science is boring.
- 29d) Science is important to everyone's life.
- 29e) I would like a job that involved using science.

Index based on the rounded average of the responses to the 5 questions, ranging from most negative to most positive. Reverse-scale values are used for SQ2(s)-21b; and SQ2(s)-29a,d,e.

Index assigned to three levels:
Low (1) = average of 1 - 2;
Medium (2) = average of > 2 - 3;
High (3) = average of > 3 - 4.

Missing: Index may be computed based on 4 out of 5 of the required variables; if missing more than one component variable, then coded as missing for the index.**Trend Status:** Trend data are reported with the exception of Bulgaria and South Africa: no comparable data available in 1995.

Country	Code	Comment
All Separate Science	X	Only countries reporting teaching science as a general/integrated subject are included in this variable.
Indonesia	D	Students were asked about "IPA" science; data pertain to composite course taught by biology and physics teachers
Chinese Taipei	D	Students were asked about "natural science"; data pertain to grade 8 physics/chemistry course

Section 2

Derived Variable Name: BTDGADMN **Label:** GEN\% OF SCHOOL TIME ADMIN. DUTIES

Description: Teachers' reports of percentage of formally-scheduled time they spend on administrative duties

Report Location: R3.8 Math, R3.8 Science

Source Variable(s): TQM2A-6a-g, 5a-i
 TQS2A-6a-g, 5a-i
 (BTBMSUB1-9; BTBSSUB 1-9; BTBGTSK1-7)

Notes: Computed as ratio of reported time for the administrative duties (TQS2A-6c) to TOTAL time formally-scheduled for teaching all subjects and doing other tasks (sum of BTDGSUBT (5a-i) and BTDGTSKT (6a-g)).

Missing: Coded as missing if either BTDGSUBT or BTDGTSKT is missing.

Trend Status: Trend data are not reported / not available.

Country	Code	Comment
Russian Federation	X	Data not available for 6a-g. Formally scheduled school time is for instruction only; teachers are not formally scheduled for other activities.
Netherlands	X	Data not available for 6c. Data in other activities category reflects the total reported for curriculum planning, administrative duties and other activities.

Derived Variable Name: BTDCPLN **Label:** GEN\% OF SCHOOL TIME CURRI.PLANNING

Description: Teachers' reports of percentage of formally-scheduled time they spend on curriculum planning

Report Location: R3.8 Math, R3.8 Science

Source Variable(s): TQM2A-6a-g, 5a-i
 TQS2A-6a-g, 5a-I
 (BTBMSUB1-9; BTBSSUB1-9; BTBGTSK1-7)

Notes: Computed as ratio of reported time for curriculum planning (sum of TQS2A-6d, e) to TOTAL time formally-scheduled for teaching all subjects and doing other tasks (sum of BTDGSUBT (5a-i) and BTDGTSKT (6a-g)).

Missing: Coded as missing if either BTDGSUBT or BTDGTSKT is missing.

Trend Status: Trend data are not reported / not available.

Country	Code	Comment
Russian Federation	X	Data not available for 6d,e. Formally scheduled school time is for instruction only; teachers are not formally scheduled for other activities.
Netherlands	X	Data not available for 6d,e. Data in other activities category reflects the total reported for curriculum planning, administrative duties and other activities.
Singapore	X	Data not available for 6d,e.

Derived Variable Name: BTDGMMJ1 **Label:** GEN\MAJOR AREA OF STUDY FOR DEG:Math

Description: Teachers' reports that the major area of study for their degree was mathematics**Report Location:** R3.1 Math**Source Variable(s):** TQM2A-17a,18a
(BTBGCMA1; BTBGMMMA1)**Notes:** Percentage computed based on teachers' responses that their major area of study for their BA, MA, or teacher training education was 'Mathematics':1 = Yes (Yes to 17a or 18a);
2 = No (Both 17a and 18a = No or Not Applicable).**Missing:** Coded as missing if both source variables are missing.**Trend Status:** Trend data are not reported / not available.

Country	Code	Comment
All		Data considered internationally comparable for reporting.

Derived Variable Name: BTDGMMJ2 **Label:** GEN\MAJOR AREA OF STUDY FOR DEG: Math Ed

Description: Teachers' reports that the major area of study for their degree was mathematics education**Report Location:** R3.1 Math**Source Variable(s):** TQM2A-17f,18f
(BTBGCMA6; BTBGMMMA6)**Notes:** Percentage computed based on teachers' responses that their major area of study for their BA, MA, or teacher training education was 'Mathematics Education':1 = Yes (Yes to 17f or 18f);
2 = No (Both 17f and 18f = No or Not Applicable).**Missing:** Coded as missing if both source variables are missing.**Trend Status:** Trend data are not reported / not available.

Country	Code	Comment
Lithuania	X	Data not available for source variable(s).

Derived Variable Name: BTDGMMJ3 **Label:** GEN\MAJOR AREA OF STUDY FOR DEG:Sc/Sc Ed

Description: Teachers' reports that the major area of study for their degree was science or science education**Report Location:** R3.1 Math**Source Variable(s):** TQM2A-17b-d,g; TQM2A-18b-d,g
(BTBGCMA2,3,7; BTBGMMMA2,3,7)**Notes:** Percentage computed based on teachers' responses that their major area of study for their BA, MA, or teacher training education was 'Science Education':1 = Yes (Yes to 17b,c,d, or g or 18b,c,d or g);
2 = No (All of 17b,c,d, and g and 18b,c,d and g = No or Not Applicable).**Missing:** Coded as missing if both source variables are missing.**Trend Status:** Trend data are not reported / not available.

Country	Code	Comment
Lithuania	X	Data not available for source variable(s).

Derived Variable Name: BTDGMMJ4 **Label:** GEN\MAJOR AREA OF STUDY FOR DEG:Educ

Description: Teachers' reports that the major area of study for their degree was education**Report Location:** R3.1 Math**Source Variable(s):** TQM2A-17e, 18e
(BTBGCMA5; BTBGMMMA5)**Notes:** Percentage computed based on teachers' responses that their major area of study for their BA, MA, or teacher training education was 'Education':1 = Yes (Yes to 17e or 18e);
2 = No (Both 17e and 18e = No or Not Applicable).**Missing:** Coded as missing if both source variables are missing.**Trend Status:** Trend data are not reported / not available.

Country	Code	Comment
Lithuania	X	Data not available for source variable(s).

Derived Variable Name: BTDGMMJ5 **Label:** GEN\MAJOR AREA OF STUDY FOR DEG:Other

Description: Teachers' reports that the major area of study for their degree was 'other'

Report Location: R3.1 Math

Source Variable(s): TQM2A-17h, 18h
(BTBGCMA8; BTBGMMMA8)

Notes: Based on teachers' responses that their major area of study for their BA, MA, or teacher training education was 'Other':

1 = Yes (Yes to 17h or 18h);
2 = No (Both 17h and 18h = No or Not Applicable).

Missing: Coded as missing if both source variables are missing.

Trend Status: Trend data are not reported / not available.

Country	Code	Comment
Lithuania	X	Data not available for source variable(s).

Derived Variable Name: BTDGOTHR **Label:** GEN\% OF SCHOOL TIME OTHER ACTIVIT.

Description: Teachers' reports of percentage of formally-scheduled time they spend on other activities

Report Location: R3.8 Math, R3.8 Science

Source Variable(s): TQM2A-6a,b,f,g
TQS2A-6a,b,f,g
(BTBGTSK1,2,6,7)

Notes: Computed as ratio of reported time for 'other' activities, including student supervision, student counseling/appraisal, (sum of TQS2A-6a, b, f, g) to TOTAL time formally-scheduled hour/periods spent on teaching all subjects and doing other tasks (sum of BTDGSUBT (5a-i) and BTDGTSKT (6a-g)).

Missing: Coded as missing if either BTDGSUBT or BTDGTSKT is missing.

Trend Status: Trend data are not reported / not available.

Country	Code	Comment
Russian Federation	X	Data not available for 6a,b,f,g. Formally scheduled school time is for instruction only; teachers are not formally scheduled for other activities.
Netherlands	D	Data not available for 6a,b,f,g. Data in other activities category reflects the total reported for curriculum planning, administrative duties and other activities.

Derived Variable Name: BTDGSMJ1	Label: SCI\MAJOR AREA OF STUDY BIOLOGY
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Description: Teachers' reports that the major area of study for their degree was biology

Report Location: R3.1 Science

Source Variable(s): TQS2A-17b; 18b
(BTBGMA2; BTBGMA2)

Notes: Based on teachers' responses that their major area of study for their BA , MA, or teacher education was "Biology":
1 = Yes (Yes for 17b or 18b);
2 = No (Both 17b AND 18b = No or Not Applicable).

Missing: Coded as missing if both source variables are missing.

Trend Status: Trend data are not reported / not available.

Country	Code	Comment
All		Data considered internationally comparable for reporting.

Derived Variable Name: BTDGSMJ2	Label: SCI\MAJOR AREA OF STUDY PHYSICS
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Description: Teachers' reports that the major area of study for their degree was physics

Report Location: R3.1 Science

Source Variable(s): TQS2A-17c; 18c
(BTBGMA3; BTBGMA3)

Notes: Based on teachers' responses that their major area of study for their BA , MA, or teacher education was "Physics":
1 = Yes (Yes for 17c or d or 18c or d);
2 = No (All of 17c and d AND 18c and d = No or Not Applicable).

Missing: Coded as missing if both source variables are missing.

Trend Status: Trend data are not reported / not available.

Country	Code	Comment
All		Data considered internationally comparable for reporting.

Derived Variable Name: BTDGSMJ3	Label: SCI\MAJOR AREA OF STUDY CHEMISTRY
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Description: Teachers' reports that the major area of study for their degree was chemistry

Report Location: R3.1 Science

Source Variable(s): TQS2A-17d; 18d
(BTBGMA4; BTBGMA4)

Notes: Based on teachers' responses that their major area of study for their BA , MA, or teacher education was "Chemistry":
1 = Yes (Yes for 17d or 18d);
2 = No (Both 17d AND 18d = No or Not Applicable).

Missing: Coded as missing if both source variables are missing.

Trend Status: Trend data are not reported / not available.

Country	Code	Comment
All		Data considered internationally comparable for reporting.

Derived Variable Name: BTDGSMJ4	Label: SCI\MAJOR AREA OF STUDY SCIENCE EDUC
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Description: Teachers' reports that the major area of study for their degree was science education

Report Location: R3.1 Science

Source Variable(s): TQS2A-17g; 18g
(BTBGMA7; BTBGMA7)

Notes: Based on teachers' responses that their major area of study for their BA , MA, or teacher education was "Science education":
1 = Yes (Yes for 17g or 18g);
2 = No (Both 17g AND 18g = No or Not Applicable).

Missing: Coded as missing if both source variables are missing.

Trend Status: Trend data are not reported / not available.

Country	Code	Comment
Lithuania	X	Data not available for source variable(s).

Derived Variable Name: BTDGSMJ5 **Label:** SCI\MAJOR AREA OF STUDY MATHEMATICS

Description: Teachers' reports that the major area of study for their degree was mathematics**Report Location:** R3.1 Science**Source Variable(s):** TQS2A-17a, f; 18a, f
(BTBGMA1; BTBGMA1)**Notes:** Based on teachers' responses that their major area of study for their BA , MA, or teacher education was "Mathematics" or "Mathematics Education":1 = Yes (Yes for 17a or f or 18a or f);
2 = No (Both 17a and f AND 18a and f= No or Not Applicable).**Missing:** Coded as missing if both source variables are missing.**Trend Status:** Trend data are not reported / not available.

Country	Code	Comment
Lithuania	X	Data not available for source variable(s).

Derived Variable Name: BTDGSMJ6 **Label:** SCI\MAJOR AREA OF STUDY EDUCATION

Description: Teachers' reports that the major area of study for their degree was education**Report Location:** R3.1 Science**Source Variable(s):** TQS2A-17e; 18e
(BTBGMA5; BTBGMA5)**Notes:** Based on teachers' responses that their major area of study for their BA , MA, or teacher education was "Education":1 = Yes (Yes for 17e or 18e);
2 = No (Both 17e AND 18e = No or Not Applicable).**Missing:** Coded as missing if both source variables are missing.**Trend Status:** Trend data are not reported / not available.

Country	Code	Comment
Lithuania	X	Data not available for source variable(s).

Derived Variable Name: BTDGSMJ7	Label: SCI\MAJOR AREA OF STUDY OTHER
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Description: Teachers' reports that the major area of study for their degree was other

Report Location: R3.1 Science

Source Variable(s): TQS2A-17h; 18h
(BTBGMA8; BTBGMA8)

Notes: Based on teachers' responses that their major area of study for their BA , MA, or teacher education was 'Other':

1 = Yes (Yes for 17h or 18h);
2 = No (Both 17h AND 18h = No or Not Applicable).

Missing: Coded as missing if both source variables are missing.

Trend Status: Trend data are not reported / not available.

Country	Code	Comment
Lithuania	X	Data not available for source variable(s).

Derived Variable Name: BTDGSUBT	Label: GEN\TOTAL HOURS TEACH. TIME
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Description: Teachers' reports of how much time they spend on teaching mathematics, science, and other subjects

Report Location: R3.8 Math, R3.8 Science

Source Variable(s): TQM2A-5a-i
TQS2A-5a-i
(BTBMSUB1-9; BTBSSUB 1-9)

Notes: Computed sum of responses to TQS2A-5a-i: In one typical calendar week from Monday to Sunday, for how many single hours/periods are you formally scheduled /time-tabled to teach each of the following subjects:

- a) mathematics
- b) General/Integrated science
- c) Physical science
- d) Earth science
- e) Life science
- f) Biology
- g) Chemistry
- h) Physics
- i) other subjects

Missing: Coded as missing if sum is < 1 or > 80.

Trend Status: Trend data are not reported / not available.

Country	Code	Comment
All		Data considered internationally comparable for reporting.

Derived Variable Name: BTDGTSKT**Label:** GEN\TOTAL HOURS PERF. OTHER TASKS

Description: Teachers' reports of how much time they spend on doing tasks other than teaching**Report Location:** R3.8 Math, R3.8 Science**Source Variable(s):** TQM2A-6a-g
TQS2A-6a-g
(BTBGTSK1-7)**Notes:** Computed sum of responses to TQS2A-6a-g: In one typical calendar week from Monday to Sunday, for how many single hours/periods are you formally scheduled /time-tabled to perform each of the following tasks::

- a) student supervision (other than teaching)
- b) student counseling/appraisal
- c) administrative duties
- e) cooperative curriculum planning
- f) other non-student contact time (I.e., use not specified)
- g) other

Missing: Coded as missing if sum is < 1 or > 80.**Trend Status:** Trend data are not reported / not available.

Country	Code	Comment
Russian Federation	X	Data not available for 6a-g. Formally scheduled school time is for instruction only; teachers are not formally scheduled for other activities.
Netherlands	D	Data not available for 6a-g>Data in other activities category (part g) reflects the total reported for curriculum planning, administrative duties and other activities.

Derived Variable Name: BTDGTTIM**Label:** GEN\% OF SCHOOL TIME TEACHING ANYTHING

Description: Teachers' reports of the percent of school time they spend on teaching mathematics, science, and other subjects**Report Location:** R3.8 Math, R3.8 Science**Source Variable(s):** TQM2A-5a-i, 6a-g
TQS2A-5a-i, 6a-g
(BTBMSUB1-9; BTBSSUB 1-9)**Notes:** Computed as ratio of reported time for teaching all subjects (sum of TQS2A-5a-i) to TOTAL time formally-schedule hour/periods spent on teaching all subjects and doing other tasks (sum of BTDGSUBT (5a-i) and BTDGTSKT (6a-g)).**Missing:** Coded as missing if either BTDGSUBT or BTDGTSKT is missing.**Trend Status:** Trend data are not reported / not available.

Country	Code	Comment
Russian Federation	X	Data not available for 6a-g. Formally scheduled school time is for instruction only; teachers are not formally scheduled for other activities.

Derived Variable Name: BTDMCALC**Label:** MAT\NEVER OR HARDLY EVER USE CALCUL.**Description:** Teachers' reports of students never or hardly ever using calculators in class**Report Location:** R3.14 Math**Source Variable(s):** TQM2B-7a-e
(BTBMCAL1-4)**Notes:** Based on teachers' responses that students 'Never or Hardly Ever Use Calculators' to five questions about different classroom activities:1 = Yes (ALL of TQM2B-7a-e = option 4);
2 = No (ANY of TQM2B-7a-e = 1,2, or 3).**Missing:** Coded as missing if all source variables are missing.**Trend Status:** Trend data are not reported / not available.

Country	Code	Comment
All		Data considered internationally comparable for reporting.

Derived Variable Name: BTDMCPTM**Label:** MAT\INDEX OF CONFIDENCE TO TEACH MATH**Description:** Index of teachers' confidence in preparation to teach mathematics**Report Location:** 6.3 Math**Source Variable(s):** TQM2A-14a-i
(BTBMFP01-12)**Notes:** Based on 12 questions about different mathematics topics. Computed average across the 12 items (14a-i), including only those items where the teacher did NOT respond 'Do not Teach' (option 1). Average computed based on recoded responses of:1 = Not Well Prepared (option 2);
2 = Somewhat Prepared (option 3);
3 = Very Well Prepared (option 4).Index assigned to three levels:
High (3): Average = >2.75;
Medium (2): Average = > 2.25 - <2.75;
Low (1): Average <2.25.**Missing:** Coded as missing if all source variables are missing.**Trend Status:** Trend data are not reported / not available.

Country	Code	Comment
England	X	Data not available for source variable(s).
Lithuania	X	Data not available for source variable(s).
Russian Federation	X	Data not available for source variable(s).

Derived Variable Name: BTDMEMH**Label:** MAT\INDEX:EMPHASIS ON MATH HOMEWORK

Description: Index of teachers' emphasis on mathematics homework**Report Location:** 6.21 Math 6.22 Math**Source Variable(s):** TQM2B-15,16
(BTBMHMW2; BTBMHWMA)**Notes:** Index of emphasis on mathematics homework based on teachers' responses to the following questions:

- i) How often they usually assign mathematics homework (TQM2B-15);
- ii) How many minutes of mathematics homework they usually assign students (TQM2B-16).

Index assigned to three levels:

High (3): TQM2B-15 = At least once or twice a week (option 3, 4 or 5); AND

TQM2B-16 = More than 30 minutes (option 3, 4 or 5);

Low (1): TQM2B-15 = Never or Less Than Once a Week (option 1 or 2) AND

TQM2-16 = Less Than 15 Minutes or 15-30 Minutes (option 1 or 2);

Medium (2) : all other combinations.

Missing: Coded as missing if any source variable is missing.**Trend Status:** Trend data are reported with the exception of Bulgaria and South Africa: no comparable data available in 1995.

Country	Code	Comment
All		Data considered internationally comparable for reporting.

Derived Variable Name: BTDMERPS	Label: MAT\INDEX:EMPHASIS ON PROB.SOLVING
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Description: Index of teachers' emphasis on mathematics reasoning and problem solving

Report Location: 6.13 Math, 6.14 Math

Source Variable(s): TQM2B-10a,b,c,e
(BTBMASK1-3,5)

Notes: Based on numerically recoded responses to the following questions:

In your mathematics lessons, how often do you usually ask students to do the following?

- a) explain reasoning behind an idea;
- b) represent and analyze relationships using tables, charts, graphs;
- c) work on problems for which there is not immediately obvious method of solution;
- e) write equations to represent relationships.

Computed average across the 4 items based on:

- 1 = never or almost never (option 1);
- 2 = some lessons (option 2);
- 3 = most lessons (option 3);
- 4 = every lesson (option 4).

Index assigned to three levels:

- High (3): Average => 3.0;
- Medium (2): Average => 2.25 - <3.0;
- Low (1): Average < 2.25.

Missing: Coded as missing if more than one source variable is missing.

Trend Status: Trend data are reported with the exception of Bulgaria and South Africa: no comparable data available in 1995.

Country	Code	Comment
All		Data considered internationally comparable for reporting.

Derived Variable Name: BTDMHTM	Label: MAT\HRS/WK TEACHING MATH
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Description: Teachers' reports of weekly mathematics instructional time in hours

Report Location: 6.5 Math

Source Variable(s): TQM2B-3;
(BTBMTIME)

Notes: Based on teachers' reports of minutes per week teaching science (TQM2B-3) divided by 60.

Missing: Coded as missing if any source variable is missing.

Trend Status: Trend data are reported.

Country	Code	Comment
Lithuania	X	Data not available for source variable(s).

Derived Variable Name: BTDMHWK**Label:** MAT\AMOUNT OF MATH HOMEWORK

Description: Teachers' reports of the amount of mathematics homework given to students**Report Location:** R3.15 Math**Source Variable(s):** TQM2B-15,16
(BTBMHMW2; BTBMHWMA)**Notes:** Computed percent of students in the following categories based on teachers' responses concerning the amount of and frequency of assigning homework to students:

- 1) Never Assigning Homework (TQM2B-15 = option 1);
- 2) Assigning Homework Less Than Once A Week for More Than 30 Minutes
(TQM2B-15 = option 2 AND TQM2B-16 = option 3, 4 or 5);
- 3) Assigning Homework Less Than Once A Week for 30 Minutes or Less
(TQM2B-15 = option 2 AND TQM2B-16 = option 1 or 2);
- 4) Assigning Homework Once or Twice a Week for More Than 30 Minutes
(TQM2B-15 = option 3 AND TQM2B-16 = option 3, 4 or 5);
- 5) Assigning Homework Once or Twice a Week for 30 Minutes or Less
(TQM2B-15 = option 3 AND TQM2B-16 = option 1 or 2);
- 6) Assigning Homework Three Times a Week or More for More Than 30 Minutes
(TQM2B-15 = option 4 or 5 AND TQM2B-16 = option 3, 4 or 5);
- 7) Assigning Homework Three Times a Week or More for 30 Minutes or Less
(TQM2B-15 = option 4 or 5 AND TQM2B-16 = option 1 or 2).

Missing: Coded as missing if any source variable is missing.**Trend Status:** Trend data are not reported / not available.

Country	Code	Comment
All		Data considered internationally comparable for reporting.

Derived Variable Name: BTDMHWK2	Label: MAT\HOMEWORK BASED ON PROJ. & INVEST.
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Description: Teachers reports of assigning mathematics homework based on projects and investigations

Report Location: R3.16 Math

Source Variable(s): TQM2B-17e,f,g
(BTBMATR; BTBMEIXR; BTBMGEXR)

Notes: Based on combined responses to questions about assigning homework based on:

- e) small investigation(s) or gathering data;
- f) working individually on long term projects or experiments;
- g) working as a small group on long term projects or experiments.

Computed average responses to TQM2B-17e,f,g based on the following response code values:

- 1= Never;
- 2= Rarely;
- 3 = Sometimes;
- 4 = Always.

Recoded average values into two categories:
1 = Sometimes or Always (average 2.5 or greater);
2 = Never or Rarely (average of less than 2.5).

Missing: Coded as missing if more than one source variable is missing (17e,f,g).

Trend Status: Trend data are not reported / not available.

Country	Code	Comment
All		Data considered internationally comparable for reporting.

Derived Variable Name: BTDMMGRD	Label: MAT\HAVE BA OR MASTERS IN MATH
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Description: Teachers' reports of having a BA, MA or teacher education in "Mathematics" or "Mathematics Education"

Report Location: 6.2 Math

Source Variable(s): TQMA2-17a,f; 18a,f;
(BTBGCMA1,6; BTBGMMMA1,6)

Notes: Based on teachers' responses concerning having mathematics or mathematics education as the major area of study in their BA, MA, OR teacher education.

- 1 = Yes (TQM2A-17a or f = Yes OR (TQM2A-18a or f = Yes);
- 2 = No (All of TQM2A-17a and f = No) AND (TQM2A-18a and f = No or Not Applicable).

Missing: Code as missing if all of 17a,f and 18a,f are missing.

Trend Status: Trend data are not reported / not available.

Country	Code	Comment
Lithuania	X	Data not available for source variable(s).

Derived Variable Name: BTDMQUA **Label:** MAT\QUALIFICATION TO TEACH MATH

Description: Teachers' reports of qualifications to teach mathematics

Report Location: 6.2 Math

Source Variable(s): TQMA2-17a,f; 18a,f; TQM2A-16a
(BTBGCMA1,6; BTBGMMMA1,6; BTBGTRAC)

Notes: Based on teachers' responses concerning having a teacher training certificate (16a) and mathematics or mathematics education as the major area of study in their BA, MA, or teacher education.

1 = Yes (TQM2A-16a = Yes) AND (BTDMMGRD = Yes)
2 = No (TQM2A-16a = No) AND / OR (BTDMMGRD = No)

Missing: Code as missing if all of 17a,f and 18a,f are missing.

Trend Status: Trend data are not reported / not available.

Country	Code	Comment
Italy	X	Data not available for source variable(s).
United States	X	Data not available for source variable(s).

Derived Variable Name: BTDMSIZE **Label:** MAT\AVERAGE CLASS SIZE

Description: Teachers' reports of mathematics class size

Report Location: 6.8 Math, 6.9 Math

Source Variable(s): TQM2B-1a,b
(BTBMBOY; BTBMGIRL)

Notes: Computed total mathematics class size from sum of boys and girls (TQS2B-1a + b).

Missing: Coded as missing if both source variables are missing or if BTDMSIZE is < 1 or > 95.

Trend Status: Trend data are reported with the exception of Bulgaria and South Africa: no comparable data available in 1995.

Country	Code	Comment
All		Data considered internationally comparable for reporting.

Derived Variable Name: BTDMSZ3C**Label:** MAT\CLASS SIZE IN 3 CATEGORIES

Description: Teachers' reports of mathematics class size reported in three categories**Report Location:** 6.8 Math, 6.9 Math**Source Variable(s):** TQM2B-1a,b
(BTBMBOY; BTBMGIRL)**Notes:** Coded BTDMSIZE into three categories:Low (1) = 1-20 Students;
Medium (2) = 21-35 Students;
High (3) = 36 or More Students.**Missing:** Coded as missing if BTDMSIZE is missing.**Trend Status:** Trend data are reported with the exception of Bulgaria and South Africa: no comparable data available in 1995.

Country	Code	Comment
All		Data considered internationally comparable for reporting.

Derived Variable Name: BTDMTIME**Label:** MAT\TEACHING MATH TIME /WK IN 4 CAT.

Description: Teachers' reports of the number of hours mathematics is taught weekly**Report Location:** 6.5 Math, 6.6 Math**Source Variable(s):** TQM2B-3
(BTBMTIME)**Notes:** Computed by dividing the reported number of minutes spent teaching by 60 and recoding the resulting value into four categories:1 = Less Than 2 Hours;
2 = 2 Hours to < 3.5 Hours;
3 = 3.5 Hours to < 5 Hours;
4 = 5 Hours or More.**Missing:** Coded as missing if any source variable is missing.**Trend Status:** Trend data are reported with the exception of Bulgaria, Islamic Republic of Iran, Lithuania, and South Africa: no comparable data available in 1995.

Country	Code	Comment
Lithuania	X	Data not available for source variable(s).

Derived Variable Name: BTDMTPPT**Label:** MAT\% OF MATH TOPICS PREPARED TO TEACH

Description: Teachers' reports of their confidence in their preparation to teach mathematics on average**Report Location:** R3.2 Math**Source Variable(s):** TQM2A-14a-i
(BTBMFP01-12)

Notes: Computed as the percentage of the following 12 mathematics topic questions where teachers reported feeling "very well prepared" (option 4) to teach.

- a) fractions, decimals, and percentages;
- b) ratios and proportions;
- c) measurement - units, instruments, and accuracy;
- d) perimeter, area, and volume;
- e) geometric figures - definitions and properties;
- f) geometric figures - symmetry, motions and transformations, congruence and similarity;
- g) coordinate geometry;
- h) algebraic expressions;
- i) evaluate and perform operations on algebraic expressions;
- j) solving linear equations and inequalities;
- k) representation and interpretation of data in graphs, charts, and tables;
- l) simple probabilities - understanding and calculations.

Missing: Teachers checking option 1 (Do Not Teach Topic) are not included in percentage computations but do not contribute to missing rate.

Trend Status: Trend data are not reported / not available.

Country	Code	Comment
England	X	Data not available for source variable(s).
Lithuania	X	Data not available for source variable(s).
Russian Federations	X	Data not available for source variable(s).

Derived Variable Name: BTDMTTIM**Label:** MAT\% OF SCHOOL TIME TEACHING MATH

Description: Teachers' reports of the percent of school time spent teaching mathematics**Report Location:** R3.8 Math**Source Variable(s):** TQM2A-5a
(BTBMSUB1)

Notes: Computed as ratio of reported time for teaching mathematics (TQS2A-5a) to TOTAL time formally-scheduled for teaching all subjects and doing other tasks (sum of BTDGSUBT (5a-i) and BTDGTSKT (6a-g)).

Missing: Coded as missing if either BTDGSUBT or BTDGTSKT is missing.

Trend Status: Trend data are not reported / not available.

Country	Code	Comment
Russian Federation	X	Data not available for 6a-g Formally scheduled school time is for instruction only; teachers are not formally scheduled for other activities.

Derived Variable Name: BTDSBGRD	Label: SCI\HAVE BA OR MASTERS IN BIOLOGY
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Description: Teachers' reports of having a BA or MA in biology

Report Location: 6.2 Science

Source Variable(s): TQS2A-17b; 18b
(BTBGCMA2; BTBGMMMA2)

Notes: Based on teachers' reports of having a BA, MA OR teacher education in Biology:

- 1 = Yes (ANY of TQS2A-17b = Yes OR 18b = Yes);
- 2 = No (Both of TQS2A-17b AND 18b = No or Not Applicable).

Derived variable computed for all science teachers, however exhibit based on this variable includes only those countries with teachers identified as teaching separate Biology or Life Science courses (ITCOURSE = 3 or 8).

Missing: Coded as missing if missing for 16a OR if 16a=YES AND missing for all of 17a-f and 18a-f.

Trend Status: Trend data are not reported / not available.

Country	Code	Comment
All		Data considered internationally comparable for reporting.

Derived Variable Name: BTDSBQUA	Label: SCI\QUALIFICATION TO TEACH BIOLOGY
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Description: Teachers' reports of qualifications to teach biology

Report Location: 6.2 Science

Source Variable(s): TQS2A-16a; 17b; 18b
(BTBGTRAC; BTBGCMA2; BTBGMMMA2)

Notes: Based on teachers reports of having a teacher training certificate AND a BA, MA or teacher training education in Biology:

- 1 = Yes (TQ2SA-16a = Yes) AND (ANY of TQS2A-17b = Yes OR 18b = Yes);
- 2 = No (TQ2SA-16a = No) OR (Both of TQS2A-17b AND 18b = No or Not Applicable).

Derived variable computed for all science teachers, however exhibit based on this variable includes only those countries with teachers identified as teaching separate Biology or Life Science courses (ITCOURSE = 3 or 8).

Missing: Coded as missing if missing for 16a OR if 16a=YES AND missing for all of 17a-f and 18a-f.

Trend Status: Trend data are not reported / not available.

Country	Code	Comment
Italy	X	Data not available for source variable(s).
United States	X	Data not available for source variable(s).

Derived Variable Name: BTDSCGRD	Label: SCI\HAVE BA OR MASTERS IN CHEMISTRY
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Description: Teachers' reports of having a BA or MA in chemistry

Report Location: 6.2 Science

Source Variable(s): TQS2A-17d; 18d
(BTBGCMA4; BTBGMA4)

Notes: Based on teachers' reports of having a BA, MA OR teacher education in Chemistry:

- 1 = Yes (ANY of TQS2A-17d = Yes OR 18d = Yes);
- 2 = No (Both of TQS2A-17d AND 18d = No or Not Applicable).

Derived variable computed for all science teachers, however exhibit based on this variable includes only those countries with teachers identified as teaching separate Chemistry courses (ITCOURSE =4).

Missing: Coded as missing if missing for 16a OR if 16a=YES AND missing for all of 17a-f and 18a-f.

Trend Status: Trend data are not reported / not available.

Country	Code	Comment
All		Data considered internationally comparable for reporting.

Derived Variable Name: BTDSCTPS	Label: SCI\INDEX OF CONFIDENCE TEACH SCIENCE
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Description: Index of teachers' confidence in preparation to teach science

Report Location: 6.3 Science

Source Variable(s): TQS2A-14a-j
(BTBSFPO1-10)

Notes: Based on 10 questions about different science topics. Computed average across the 10 items (14a-j), including only those items where the teacher did NOT respond 'Do not Teach' (option 1). Average computed based on recoded responses of:

- 1 = Not Well Prepared (option 2);
- 2 = Somewhat Prepared (option 3);
- 3 = Very Well Prepared (option 4).

Index assigned to three levels:
High (3): Average = >2.75;
Medium (2): Average = > 2.25 - <2.75;
Low (1): Average <2.25.

Missing: Coded as missing if all source variables are missing.

Trend Status: Trend data are not reported / not available.

Country	Code	Comment
England	X	Data not available for source variable(s).
Lithuania	X	Data not available for source variable(s).
Russian Federation	X	Data not available for source variable(s).

Derived Variable Name: BTDSCQUA **Label:** SCI\QUALIFICATION TO TEACH CHEMISTRY

Description: Teachers' reports of qualifications to teach chemistry**Report Location:** 6.2 Science**Source Variable(s):** TQS2A-16a; 17d; 18d
(BTBGTRAC; BTBGCMA4; BTBGMMMA4)**Notes:** Based on teachers' reports of having a teacher training certificate AND a BA, MA or teacher education in Chemistry:1 = Yes (TQ2SA-16a = Yes) AND (ANY of TQS2A-17d = Yes OR 18d = Yes);
2 = No (TQ2SA-16a = No) OR (Both of TQS2A-17d AND 18d = No or Not Applicable).**Missing:** Coded as missing if missing for 16a OR if 16a=YES AND missing for all of 17a-f and 18a-f.**Trend Status:** Trend data are not reported / not available.

Country	Code	Comment
Italy	X	Data not available for source variable(s).
United States	X	Data not available for source variable(s).

Derived Variable Name: BTDSEGRD **Label:** SCI\HAVE BA OR MASTERS IN EARTH SCI

Description: Teachers' reports of having a BA or MA in a field relevant Earth science**Report Location:** 6.2 Science**Source Variable(s):** TQS2A-17b,c,d,g,h; 18b,c,d,g,h
(BTBGCMA2,3,4,7,8; BTBGMMMA2,3,4,7,8)**Notes:** Based on teachers' reports of having a BA, MA OR teacher education in a field relevant to Earth science (biology chemistry, physics, science education, or "other"):1 = Yes (ANY of TQS2A-17b,c,d,g,h = Yes OR 18b,c,d,g,h = Yes);
2 = No (ALL of TQS2A-17b,c,d,g,h AND 18b,c,d,g,h = No or Not Applicable).

Derived variable computed for all science teachers, however exhibit based on this variable includes only those countries with teachers identified as teaching separate Earth science courses (ITCOURSE = 5).

Missing: Coded as missing if missing for 16a OR if 16a=YES AND missing for all of 17a-f and 18a-f.**Trend Status:** Trend data are not reported / not available.

Country	Code	Comment
All		Data considered internationally comparable for reporting.

Derived Variable Name: BTDSEQUA**Label:** SCIQUALIFICATION TO TEACH EARTH SCI

Description: Teachers' reports of qualifications to teach Earth science**Report Location:** 6.2 Science**Source Variable(s):** TQS2A-16a; 17b,c,d,g,h; 18b,c,d,g,h
(BTBGTRAC; BTBGCMA2,3,4,7,8; BTBGMA2,3,4,7,8)**Notes:** Based on teachers' reports of having a teacher training certificate AND a BA, MA or teacher education in a field relevant to Earth science (biology chemistry, physics, science education, or "other"):

1 = Yes (TQ2SA-16a = Yes) AND (ANY of TQS2A-17b,c,d,g,h = Yes OR 18b,c,d,g,h = Yes);
2 = No (TQ2SA-16a = No) OR (ALL of TQS2A-17b,c,d,g,h AND 18b,c,d,g,h = No or Not Applicable).

Derived variable computed for all science teachers, however exhibit based on this variable includes only those countries with teachers identified as teaching separate Earth science courses (ITCOURSE = 5).

Missing: Coded as missing if missing for 16a OR if 16a=YES AND missing for all of 17a-f and 18a-f.**Trend Status:** Trend data are not reported / not available.

Country	Code	Comment
Italy	X	Data not available for source variable(s).
United States	X	Data not available for source variable(s).

Derived Variable Name: BTDSERPS**Label:** SCI\INDEX:EMPHASIS ON PROB.SOLVING

Description: Index of teachers' emphasis on scientific reasoning and problem-solving**Report Location:** 6.12 Science, 6.13 Science**Source Variable(s):** TQS2B-10a-f
(BTBSASK1-6)**Notes:** Based on teachers' responses to the following questions concerning what they ask students to do in class:

- a = explain reasoning behind an idea
- b = represent and analyze relationships using tables, charts, graphs
- c = work on problems for which there is no immediately obvious method of solution
- e = write explanations about what was observed and why it happened
- f = put events or objects in order and give a reason for the organization

Computed average across the 5 items based on:

- 1 = never or almost never;
- 2 = some lessons;
- 3 = most lessons;
- 4 = every lesson.

Index assigned to three levels:
High (3): Average \Rightarrow 3.0;
Medium (2): Average \Rightarrow 2.25 - < 3.0;
Low (1): Average < 2.25.

Missing: Coded as missing if more than one source variable is missing.**Trend Status:** Trend data are reported with the exception of Bulgaria and South Africa - no comparable data available in 1995; or Slovak Republic and Slovenia - no comparable data available in 1999.

Country	Code	Comment
All		Data considered internationally comparable for reporting.

Derived Variable Name: BTDSESH	Label: SCI\INDEX:EMPHASIS ON SCIENCE HOMEWORK
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Description: Index of teachers' emphasis on science homework

Report Location: 6.18 Science, 6.19 Science

Source Variable(s): TQS2B-15,16
(BTBSHMW2; BTBSHWMA)

Notes: Index of emphasis on science homework based on teachers' responses to the following questions:

- i) How often they usually assign science homework (TQS2B-15);
- ii) How many minutes of science homework they usually assign students (TQS2B-16).

Index assigned to three levels:

High (3): TQS2B-15 = At least once or twice a week (option 3, 4 or 5); AND

TQS2B-16 = More than 30 minutes (option 3, 4 or 5);

Low (1): TQS2B-15 = Never or Less Than Once a Week (option 1 or 2) AND

TQS2-16 = Less Than 15 Minutes or 15-30 Minutes (option 1 or 2);

Medium (2): all other combinations.

Missing: Coded as missing if any source variable is missing.

Trend Status: Trend data are reported with the exception of Bulgaria and South Africa - no comparable data available in 1995; or Slovak Republic and Slovenia - no comparable data available in 1999.

Country	Code	Comment
All		Data considered internationally comparable for reporting.

Derived Variable Name: BTDSHTS	Label: SCI\HRS/WK TEACHING SCIENCE
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Description: Teachers' reports of weekly science instructional time in hours

Report Location: 6.5 Science

Source Variable(s): TQS2B-3;
(BTBSTIME)

Notes: Based on teachers' reports of minutes per week teaching science (TQS2B-3) divided by 60.

Missing: Coded as missing if any source variable is missing.

Trend Status: Trend data are not reported / not available.

Country	Code	Comment
Lithuania	X	Data not available for source variable(s).

Derived Variable Name: BTDSHWK**Label:** SCI\AMOUNT OF SCIENCE HOMEWORK

Description: Teachers' reports of the amount of science homework given to students**Report Location:** R3.16 Science**Source Variable(s):** TQS2B-15; 16
(BTBSHMW2; BTBSHWMA)**Notes:** Assigned to the following categories based on teachers' responses concerning the amount and frequency of homework assigned to students:

- 1) Never Assigning Homework (TQS2B-15 = option 1);
- 2) Assigning Homework Less Than Once A Week for More Than 30 Minutes
(TQS2B-15 = option 2 AND TQS2B-16 = option 3, 4 or 5);
- 3) Assigning Homework Less Than Once A Week for 30 Minutes or Less
(TQS2B-15 = option 2 AND TQS2B-16 = option 1 or 2);
- 4) Assigning Homework Once or Twice a Week for More Than 30 Minutes
(TQS2B-15 = option 3 AND TQS2B-16 = option 3, 4 or 5);
- 5) Assigning Homework Once or Twice a Week for 30 Minutes or Less
(TQS2B-15 = option 3 AND TQS2B-16 = option 1 or 2);
- 6) Assigning Homework Three Times a Week or More for More Than 30 Minutes
(TQS2B-15 = option 4 or 5 AND TQS2B-16 = option 3, 4 or 5);
- 7) Assigning Homework Three Times a Week or More for 30 Minutes or Less
(TQS2B-15 = option 4 or 5 AND TQS2B-16 = option 1 or 2).

Missing: Coded as missing if any source variable is missing.**Trend Status:** Trend data are not reported / not available.

Country	Code	Comment
All		Data considered internationally comparable for reporting.

Derived Variable Name: BTDSHWK2 **Label:** SCI\HOMEWORK BASED ON PROJ. & INVEST.

Description: Teachers' reports of assigning science homework based on projects and investigations

Report Location: R3.17 Science

Source Variable(s): TQS2B-17e,f,g
(BTBSDATR; BTBSIEXR; BTBSGEXR)

Notes: Based on combined responses to questions about assigning homework based on:

- e) small investigation(s) or gathering data;
- f) working individually on long term projects or experiments;
- g) working as a small group on long term projects or experiments).

Computed average responses to TQS2B-17e,f,g based on the following response code values:

- 1= Never;
- 2= Rarely;
- 3 = Sometimes;
- 4 = Always.

Recoded average values into two categories:
1 = Sometimes or Always (average 2.5 or greater);
2 = Never or Rarely (average of less than 2.5).

Missing: Coded as missing if more than one source variable is missing (17e,f,g).

Trend Status: Trend data are not reported / not available.

Country	Code	Comment
Indonesia	X	Data not available for source variable(s).

Derived Variable Name: BTDSPGRD **Label:** SCI\HAVE BA OR MASTERS IN PHYS/PHYS SCI

Description: Teachers' reports of having a BA or MA in physical science (physics or chemistry)

Report Location: 6.2 Science

Source Variable(s): TQS2A-17c,d; 18c,d
(BTBGCMA3, BTBGCMA4; BTBGMA3, BTBGMA4)

Notes: Based on teachers' reports of having a BA, MA or teacher education in Physics or Chemistry:

- 1 = Yes (ANY of TQS2A-17c or d = Yes OR 18c or d = Yes);
- 2 = No (ALL of TQS2A-17c,d AND 18c,d = No or Not Applicable).

Derived variable computed for all science teachers, however exhibit based on this variable includes only those countries with teachers identified as teaching separate Physics or Physical Science (ITCOURSE = 2 or 7).

Missing: Coded as missing if missing for 16a OR if 16a=YES AND missing for all of 17a-f and 18a-f.

Trend Status: Trend data are not reported / not available.

Country	Code	Comment
All		Data considered internationally comparable for reporting.

Derived Variable Name: BTDSPQUA **Label:** SCI\QUAL. TO TEACH PHYS/PHYS SCI

Description: Teachers' reports of qualifications to teach physical science (physics or chemistry)

Report Location: 6.2 Science

Source Variable(s): TQS2A-16a; 17c,d; 18c,d
(BTBGTRAC; BTBGCMA3; BTBGCMA4, BTBGMA3, BTBGMA4)

Notes: Based on teachers' reports of having a teacher training certificate AND a BA, MA or teacher education in Physics or Chemistry:

1 = Yes (TQ2SA-16a = Yes) AND (ANY of TQS2A-17c,d = Yes OR 18c,d = Yes);
2 = No (TQ2SA-16a = No) OR (ALL of TQS2A-17c,c AND 18c,d = No or Not Applicable).

Derived variable computed for all science teachers, however exhibit based on this variable includes only those countries with teachers identified as teaching separate Physics or Physical Science courses(ITCOURSE = 2 or 7).

Missing: Coded as missing if missing for 16a OR if 16a=YES AND missing for all of 17a-f and 18a-f.

Trend Status: Trend data are not reported / not available.

Country	Code	Comment
Italy	X	Data not available for source variable(s).
United States	X	Data not available for source variable(s).

Derived Variable Name: BTDSGRD **Label:** SCI\HAVE BA OR MASTERS IN GENERAL SCI

Description: Teachers' reports of having a BA or MA in a field relevant to general science

Report Location: 6.2 Science

Source Variable(s): TQS2A-17b,c,d,g; 18b,c,d,g
(BTBGCMA2,3,4,7; BTBGMA2,3,4,7)

Notes: Based on teachers' reports of having a BA, MA OR teacher education in a field relevant to general science (biology, chemistry, physics, or science education):

1 = Yes (ANY of TQS2A-17b,c,d,g = Yes OR 18b,c,d,g = Yes);
2 = No (ALL of TQS2A-17b,c,d,g AND 18b,c,d,g = No or Not Applicable).

Derived variable computed for all science teachers; however, exhibit based on this variable includes only those countries identified as teaching general/integrated science.

Missing: Coded as missing if missing for 16a OR if 16a=YES AND missing for all of 17a-f and 18a-f.

Trend Status: Trend data are not reported / not available.

Country	Code	Comment
All		Data considered internationally comparable for reporting.

Derived Variable Name: BTDSSIZE	Label: SCI\AVERAGE CLASS SIZE
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Description: Teachers' reports of science class size

Report Location: 6.7 Science, 6.8 Science

Source Variable(s): TQS2B-1a,b
(BTBSBOY; BTBSGIRL)

Notes: Computed total science class size from sum of boys and girls (TQS2B-1a + b).

Missing: Coded as missing if both source variables are missing or if BTDSSIZE is < 1 or > 95.

Trend Status: Trend data are reported with the exception of Bulgaria and South Africa - no comparable data available in 1995; or Slovak Republic - no comparable data available in 1999.

Country	Code	Comment
All		Data considered internationally comparable for reporting.

Derived Variable Name: BTDSSQUA	Label: SCI\QUALIFICATION TO TEACH GENERAL SCI
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Description: Teachers' reports of qualifications to teach general science

Report Location: 6.2 Science

Source Variable(s): TQS2A-16a; 17b,c,d,g; 18b,c,d,g
(BTBGTRAC; BTBGCMA2,3,4,7; BTBGMMMA2,3,4,7)

Notes: Based on teachers' reports of having a teacher training certificate AND a BA, MA or teacher education in a field relevant to general science (biology, chemistry, physics, or science education):

1 = Yes (TQ2SA-16a = Yes) AND (ANY of TQS2A-17b,c,d,g = Yes OR 18b,c,d,g = Yes);
2 = No (TQ2SA-16a = No) OR (ALL of TQS2A-17b,c,d,g AND 18b,c,d,g = No or Not Applicable).

Derived variable computed for all science teachers; however, exhibit based on this variable includes only those countries identified as teaching general/integrated science.

Missing: Coded as missing if missing for 16a OR if 16a=YES AND missing for all of 17a-f and 18a-f.

Trend Status: Trend data are not reported / not available.

Country	Code	Comment
Italy	X	Data not available for source variable(s).
United States	X	Data not available for source variable(s).

Derived Variable Name: BTDSSZ3C	Label: SCI\SCIENCE CLASS SIZE IN 3 CATEGORIES
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Description: Teachers' reports of science class size reported in three categories

Report Location: 6.7 Science, 6.8 Science

Source Variable(s): TQS2B-1a,b
(BTBSBOY; BTBSGIRL)

Notes: Coded BTDSSIZE into three categories:

Low = 1-20 Students;
Medium = 21-35 Students;
High = 36 or More Students.

Missing: Coded as missing BTDSSIZE is missing.

Trend Status: Trend data are reported with the exception of Bulgaria and South Africa - no comparable data available in 1995; or Slovak Republic - no comparable data available in 1999.

Country	Code	Comment
All		Data considered internationally comparable for reporting.

Derived Variable Name: BT DSTIME	Label: SCI\CLSS\LENGTH OF SCIENCE CLASS
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Description: Teachers' reports of the number of hours science is taught weekly reported in four categories

Report Location: 6.5 Science

Source Variable(s): TQS2B-3
(BTBSTIME)

Notes: Reported number of minutes that science is taught divided by 60 and recoded into four categories:

1 = Less Than 2 Hours;
2 = 2 Hours to < 3.5 Hours;
3 = 3.5 Hours to < 5 Hours;
4 = 5 Hours or More.

Missing: Coded as missing if any source variable is missing.

Trend Status: Trend data are not reported / not available.

Country	Code	Comment
Lithuania	X	Data not available for source variable(s).

Derived Variable Name: BT DSTPTT**Label:** SCI% SCIENCE TOPICS PREPARED TO TEACH

Description: Teachers' reports of their confidence in their preparation to teach science topics on average**Report Location:** R3.2 Science**Source Variable(s):** TQS2A-14a-j
(BTBSFPO1-10)**Notes:** Computed as the percentage of the following 10 science topic questions where teachers reported feeling "very well prepared" (option 4):

a = earth science -earth's features and physical processes;
b = earth science - the solar system and the universe;
c = biology - structure and function of human systems;
d = biology - diversity, structure, and processes of plant and animal life;
e = chemistry - classification and structure of matter;
f = chemistry - chemical reactivity and transformations;
g = physics - types of energy, sources of energy, conversion between types of energy;
h = physics - light;
i = environmental and resource issues;
j = scientific methods and inquiry skills.

Missing: Teachers checking option 1 (Do Not Teach Topic) are not included in percentage computations but do not contribute to missing rate.**Trend Status:** Trend data are not reported / not available.

Country	Code	Comment
England	X	Data not available for source variable(s).
Russian Federation	X	Data not available for source variable(s).
Lithuania	X	Data not available for source variable(s).

Derived Variable Name: BT DSTTIM**Label:** SCI% OF SCHOOL TIME TEACH. SCIENCE

Description: Teachers' report of the percent of school time spent teaching science**Report Location:** R3.8 Science**Source Variable(s):** TQS2A-5a-i, 6a-g
(BTBSSUB1-9; BTBGTSK1-7)**Notes:** Computed as ratio of reported time for teaching science (sum TQS2A-5b-h) to TOTAL time formally-schedule hour/periods spent on teaching all subjects and doing other tasks (sum of BTDGSUBT (5a-i) and BTDGTSKT (6a-g)).**Missing:** Coded as missing if either BTDGSUBT or BTDGTSKT is missing.**Trend Status:** Trend data are not reported / not available.

Country	Code	Comment
Russian Federation	X	Data not available for source variable(s).

Section 3

Derived Variable Name: BCDGAAIT	Label: GEN\YEARLY INSTRUCTIONAL TIME IN HRS
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Description: Schools' reports on number of instructional hours in the school year

Report Location 6.4 Math, 6.4 Science

Source Variables: SCQ2-18a-e
(BCBGUDYY, BCBGUFLW, BCBGUHFW, BCBGUTHW, BCBGUIHW)

Notes: Derived from principals' responses to questions about the instructional time per year for <grade 8> students:
a = How many instructional days are in a school year?
b = How many full instructional days (over 4 hours) are there in the school week?
c = How many half instructional days (4 hours or less) are there in the school week?
d = How many hours in total are there in the school week?
e = How many hours of instruction are there in the school week?

Number of Instructional Hours per year computed as:
Instructional days in a school year (a) divided by instructional days per week (b+c) times instructional hours per week (e).

Missing: Coded as missing if missing for any source variable.

Trend Status Trend data are not reported / not available.

Country	Code	Comment
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Derived Variable Name: BCDGADMN	Label: GEN\HRS. ON ADMINISTRATIVE WORK
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Description: Time principal spends on administrative work

Report Location 7.3 Math, 7.3 Science

Source Variables: SCQ2-7a-d
(BCBGAC01-04)

Notes: Total hours per month the principal spends on administrative work based on the sum of the responses to the following questions:
a = Representing the school in the community;
b = Representing the school at official meetings;
c = Internal administrative tasks;
d = Hiring teachers.

Missing: Sum coded as missing if any source variable is missing except in cases where a part is 100% Not Administered (NA) for a country. 100% NA variables do not contribute to missing; sum based on the administered parts.

Invalid cases also coded as missing: sum of hours reported for all parts in 7a-n >300.

Trend Status Trend data are not reported / not available.

Country	Code	Comment
Tunisia	D	Did not administer SCQ2-7a; administrative duties is the sum of b,c,d.
England	X	Data not available for source variable(s).

Derived Variable Name: BCDGAYTS **Label:** GEN\YEARLY TOTAL TIME IN SCHOOL IN HRS

Description: Schools' reports on number of total hours in the school year
Report Location R3.7 Math, R3.7 Science
Source Variables: SCQ2-18a-e
(BCBGUDYY, BCBGUFLW, BCBGUHFW, BCBGUTHW, BCBGUIHW)

Notes: Derived from principals' responses to questions about the total time in school per year:
a = How many instructional days are in a school year?
b = How many full instructional days (over 4 hours) are there in the school week?
c = How many half instructional days (4 hours or less) are there in the school week?
d = How many hours in total are there in the school week?

Number of total hours per year is computed as:
Instructional days in a school year (a) divided by instructional days per week (b+c) times total hours per week (d).

Missing: Sum coded as missing if missing for any source variable.
Cases with invalid instructional time data are coded as missing:
i) Invalid instructional days/year: $18a < 100$ or > 300 .
ii) Invalid computed weeks/year: $18a / (b+c) > 52$.
iii) Invalid total hours/week: $18d < 10$.
iv) Invalid instructional hours/week: $18e < 10$.

Trend Status Trend data are not reported / not available.

Country	Code	Comment
Lithuania	X	Data not available for source variable(s).

Derived Variable Name: BCDGCMRC **Label:** GEN\AVAILABILITY OF COMPUTERS IN CAT.

Description: Schools' report on the ratio of <grade 8> students to total computers for use by students and teachers
Report Location R4.3 Math, R4.3 Science
Source Variables: SCQ2-14a1,a2; 15c
(BCBGUBER, BCBUGER; BCBGCMPC3)

Notes: Derived from principals' responses to the number of students enrolled and the TOTAL number of computers that can be used by students or teachers in <Grade 8>:
14a1 = How many boys are in <grade 8>?
14a2 = How many girls are in <grade 8>?
15c = TOTAL number of computers that can be used for instructional purposes by either students or teachers?

Ratio of students to computers computed as $(14a1+a2)/15c$ and coded into four categories:
1 = < 15 students per computer;
2 = 15 - 30 students per computer;
3 = 31 - 50 students per computer;
4 = > 50 students per computer;
5 = no computers (15c = 0).

Missing: Code as missing if 15c = missing OR 15c > 0 AND 14a1 or 14a2 is missing.

Trend Status Trend data are not reported / not available.

Country	Code	Comment
All		Data considered internationally comparable for reporting.

Derived Variable Name: BCDGCMUN **Label:** GEN\HRS. ON COMMUNICATING W/PARE./STU.

Description: Time principal spends communicating with students, parents, and education officials**Report Location** 7.3 Math, 7.3 Science**Source Variables:** SCQ2-7i-k
(BCBGAC09-11)**Notes:** Total hours per month the principal spends communicating with students, parents, and education officials based on the sum of the responses to the following questions:
i = Talking with parents;
j = Counseling and disciplining students;
k = responding to requests from district, state, or national education officials.**Missing:** Sum coded as missing if any source variable is missing except in cases where a part is 100% Not Administered (NA) for a country. 100% NA variables do not contribute to missing; sum based on the administered parts.

Invalid cases also coded as missing: sum of hours reported for all parts in 7a-n >300.

Trend Status Trend data are not reported / not available.

Country	Code	Comment
England	X	Data not available for source variable(s).

Derived Variable Name: BCDGINST **Label:** GEN\HRS. ON INSTRUCTION LEADERSHIP

Description: Time principal spends on instructional leadership activities**Report Location** 7.3 Math, 7.3 Science**Source Variables:** SCQ2-7g,h,l,m
(BCBGAC07,08,12,13)**Notes:** Total hours per month the principal spends on instructional leadership activities based on the sum of the responses to the following questions:
g = Discussing educational objectives with teachers;
h = Initiating curriculum revision and/or planning;
l = Training teachers;
m = Professional development activities.**Missing:** Sum coded as missing if any source variable is missing except in cases where a part is 100% Not Administered (NA) for a country. 100% NA variables do not contribute to missing; sum based on the administered parts.

Invalid cases also coded as missing: sum of hours reported for all parts in 7a-n >300.

Trend Status Trend data are not reported / not available.

Country	Code	Comment
Indonesia	D	Did not administer SCQ2-7l, instructional leadership is sum of g,h,m.
Italy	D	Did not administer SCQ2-7g, instructional leadership is sum of h,l,m.
England	X	Data not available for source variable(s).

Derived Variable Name: BCDGINT**Label:** GEN\ACCESS TO INTERNET

Description: Schools' access to the internet**Report Location** R4.4 Math, R4.4 Science**Source Variables:** SCQ2-16, 16a-d
(BCBGIACC; BCBGPCPL, BCBGACYE, BCBGNAC2-3)**Notes:** Principals' responses to SCQ2-16 and SCQ2-16a-d:

16: Does your school have access to the Internet for instruction/educational purposes?

If NO to #16:

16a: Is your school planning to get Internet access?

16b: If yes to (16a), when do you expect the school to get Internet access?

If YES to #16:

16c: What percentage of the computers listed in SCQ2-15 have access to e-mail?

16d: What percentage have access to the World Wide Web?

Responses coded into four categories:

- 1 = Have access to the Internet and the percentage of computers having access to the World Wide Web is 1-100% (16 = Yes AND 16d = 2, 3, 4 or 5);
- 2 = Have access to the Internet and the percentage of computers having access to E-mail only is 1-100% (16 = Yes AND 16d = 1 AND 16c = 2, 3, 4 or 5);
- 3 = Do NOT have access to the Internet, but planning to obtain access by 2001 (16 = No AND 16a = Yes AND 16b < 2002);
- 4 = Do NOT have access to the Internet and NO immediate plans to obtain access (16 = No AND 16a = No) or (16 = No AND 16a = Yes AND 16b =>2002).

Missing: Coded as missing if any source variable is missing.**Trend Status** Trend data are not reported / not available.

Country	Code	Comment
All		Data considered internationally comparable for reporting.

Derived Variable Name: BCDGPHSI	Label: GEN\% OF HRS SPENT ON INSTRUCTION
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Description: Schools' reports on percent of total hours spent on instruction at <grade 8>

Report Location R3.7 Math, R3.7 Science

Source Variables: SCQ2-18a-e
(BCBGUDYY, BCBGUFLW, BCBGUHFW, BCBGUTHW, BCBGUIHW)

Notes: Percent of Hours Spent on Instruction computed as the ratio of derived number of instructional hours (BCDGAAIT) to number of total hours in school (BCDGAYTS).

Missing: Sum coded as missing if missing for any source variable.
Cases with invalid instructional time data are coded as missing:
i) Invalid instructional days/year: 18a<100 or >300.
ii) Invalid computed weeks/year: 18a/(b+c) >52.
iii) Invalid total hours/week: 18d <10.
iv) Invalid instructional hours/week: 18e<10.

Trend Status Trend data are not reported / not available.

Country	Code	Comment
Lithuania	X	Data not available for source variable(s).

Derived Variable Name: BCDGSA	Label: GEN\SCHOOL ATTENDANCE
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Description: Index of schools' reports on good school and class attendance

Report Location 7.5 Math, 7.5 Science

Source Variables: SCQ2-17a2, b2, c2
(BCBGUS01-03)

Notes: Index derived from principals' responses to three questions concerning the severity of students' (a) arriving late at school, (b) absenteeism, and (c) skipping class:
1 = Not a problem;
2 = Minor problem;
3 = Serious problem.

Index assigned to three levels:
High (3) = 'Not a problem' for all three questions;
Low (1) = 'Serious problem' for two of three questions OR 'Serious problem' for one question and 'Minor problem' for two questions;
Medium (2) = All other combinations..

Missing: Coded as missing if more than one source variable is missing.

Trend Status Trend data are not reported / not available.

Country	Code	Comment
England	X	Data not available for source variable(s).

Derived Variable Name: BCDGSERV **Label:** GEN\EXPECT PARENTS SERVE ON COMMITTEES

Description: Schools' reports on expectation of parents serving on committees**Report Location** 7.4 Math, 7.4 Science**Source Variables:** SCQ2-25i,,j
(BCBGEP09-10)**Notes:** Derived from principals' responses to two YES/NO questions about whether their school expects parents to serve on committees:i = serve on committees which select school personnel
j = serve on committees which review school finances.

BCDGSERV is based on the number of YES responses:

1 = Expects parents to serve on committees (Yes to either OR both i and j);
2 = Does not expect parents to serve on committees (No to both i and j).**Missing:** Coded as missing if both source variables are missing or if one is NO and the other is missing.**Trend Status** Trend data are not reported / not available.

Country	Code	Comment
England	X	Data not available for source variable(s).

Derived Variable Name: BCDGTEAC **Label:** GEN\HRS. ON TEACHING

Description: Time principal spends on teaching**Report Location** 7.3 Math, 7.3 Science**Source Variables:** SCQ2-7e
(BCBGAC05)**Notes:** Total hours per month the principal spends on teaching based on the response to:
e = teaching (including preparation).**Missing:** Sum coded as missing if any source variable is missing except in cases where a part is 100% Not Administered (NA) for a country. 100% NA variables do not contribute to missing; sum based on the administered parts.

Invalid cases also coded as missing: sum of hours reported for all parts in 7a-n >300.

Trend Status Trend data are not reported / not available.

Country	Code	Comment
England	X	Data not available for source variable(s).
Italy	X	Data not available for source variable(s).
Tunisia	X	Data not available for source variable(s).

Derived Variable Name: BCDGVOL**Label:** GEN\EXPECT PARENTS AS VOLUNTEER...**Description:** Schools' reports on expectation of parents acting as volunteers**Report Location** 7.4 Math, 7.4 Science**Source Variables:** SCQ2-25d,f
(BCBGEP04, 06)**Notes:** Derived from principals' responses to two YES/NO questions about whether their school expects parents to serve as volunteers:
d = volunteer for school projects and programs;
f = assist teachers on trips.

BCDGVOL is based on the number of YES responses:

1 = Expects parents to serve as volunteers (Yes to either OR both d and f);
2 = Does not expect parents to serve as volunteers (No to both d and f).**Missing:** Coded as missing if both source variables are missing or if one is NO and the other is missing.**Trend Status** Trend data are not reported / not available.

Country	Code	Comment
England	X	Data not available for source variable(s).

Derived Variable Name: BCDMASR**Label:** MAT\AVAILABILITY OF SCH. RES. FOR MATH

Description: Index of schools' reports on availability of resources for mathematics instruction**Report Location** 7.1 Math, 7.2 Math**Source Variables:** SCQ2-12a-e, g-k
(BCBGST01-05, BCMST07-11)**Notes:** Index derived from principals' responses to questions asking if the capacity to provide instruction is affected by shortages or inadequacies (1 = None, 2 = A Little, 3 = Some, 4 = A Lot) in the following categories:

a = Instructional materials

b = Budget for supplies;

c = School buildings and grounds;

d = Heating/cooling and lighting systems;

e = Instructional space;

g = Computers for mathematics instruction;

h = Computer software for mathematics instruction;

i = Calculators for mathematics instruction;

j = Library materials relevant to mathematics instruction

k = Audio-visual resources for mathematics instruction

Index assigned to three levels:

High (3) = Average value of a-e is < 2 AND the average value of g-k is < 2 ;Low (1) = Average value of a-e is ≥ 3 AND the average value of g-k is ≥ 3 ;

Medium (2) = All other combinations.

Missing: Coded as missing if >1 of 12a-e is missing OR any >1 of 12g-k is missing.**Trend Status** Trend data are reported.

Country**Code****Comment**

All

Data considered internationally comparable for reporting.

Derived Variable Name: BCDSASR**Label:** SCI\AVAILABILITY OF SCH. RES. FOR SCI

Description: Index of schools' reports on availability of resources for science instruction**Report Location** 7.1 Science, 7.2 Science**Source Variables:** SCQ2-12a-e, 1-q
(BCBGST01-05; BCBSST12-17)**Notes:** Index derived from principals' responses to questions asking if the capacity to provide instruction is affected by shortages or inadequacies (1 = None, 2 = A Little, 3 = Some, 4 = A Lot) in the following categories:

a = Instructional materials
b = Budget for supplies;
c = School buildings and grounds;
d = Heating/cooling and lighting systems;
e = Instructional space;

l = Science laboratory equipment;
m = Computers for science instruction;
n = Computer software for science instruction;
o = Calculators for science instruction;
p = Library materials relevant to science instruction;
q = Audio-visual resources for science instruction.

Index assigned to three levels:

High (3) = Average value of a-e is < 2 AND the average value of l-q is < 2;
Low (1) = Average value of a-e is >= 3 AND the average value of l-q is >= 3;
Medium (2) = All other combinations.

Missing: Coded as missing if >1 of 12a-e is missing OR any >2 of 12l-q is missing.**Trend Status** Trend data are available.

Country	Code	Comment
All		Data considered internationally comparable for reporting.

Section 4

Exhibit Location 5.11 Math

Exhibit Title: Mathematics Topics in the Intended Curriculum for At Least 90% of Students, Up to and Including Eighth Grade

Source Variables: CQM-12a1-f56

Computations: Compute the percentage of subtopic items with responses of option 1 overall and for each of the five content categories:

Overall (a1-f56)
Fractions and Number Sense (a1-a15, d39-d40)
Measurement (b16-b24, d38)
Data Representation, Analysis, and Probability (f52-f56)
Geometry (c25-c27)
Algebra (e41-e51)

Note(s) None Applicable

Exhibit Location 5.12 Math

Exhibit Title: Percentages of Students Taught Fraction and Numbers Sense Topics

Source Variables: TQM2B-13A1-A12, D26

Computations: Compute percent of students whose teacher CHECKED any of the following response options for each subtopic:

Taught before this year OR Taught 1-5 periods this year OR Taught > 5 periods this year.
(BTBMTB**=1 OR BTBMTT**=1 or 2).

Note(s) A student should be indicated as 'Taught' if at least one of their science teachers responded that a topic was taught.

Exhibit Location 5.13 Math

Exhibit Title: Percentages of Students Taught Measurement Topics

Source Variables: TQM2B-13B13-B18, D25

Computations: Compute percent of students whose teacher CHECKED any of the following response options for each subtopic:

Taught before this year OR Taught 1-5 periods this year OR Taught > 5 periods this year.
(BTBMTB**=1 OR BTBMTT**=1 or 2).

Note(s) A student should be indicated as 'Taught' if at least one of their science teachers responded that a topic was taught.

Exhibit Location 5.14 Math

Exhibit Title: Percentages of Students Taught Data Representation, Analysis, and Probability Topics

Source Variables: TQM2B-13F32-F34

Computations: Compute percent of students whose teacher CHECKED any of the following response options for each subtopic:

Taught before this year OR Taught 1-5 periods this year OR Taught > 5 periods this year.
(BTBMTB**=1 OR BTBMTT**=1 or 2).

Note(s) A student should be indicated as 'Taught' if at least one of their science teachers responded that a topic was taught.

Exhibit Location 5.15 Math

Exhibit Title: Percentages of Students Taught Geometry Topics

Source Variables: TQM2B-13C19-C24

Computations: Compute percent of students whose teacher CHECKED any of the following response options for each subtopic:

Taught before this year OR Taught 1-5 periods this year OR Taught > 5 periods this year.
(BTBMTB**=1 OR BTBMTT**=1 or 2).

Note(s) A student should be indicated as 'Taught' if at least one of their science teachers responded that a topic was taught.

Exhibit Location 5.16 Math

Exhibit Title: Percentages of Students Taught Algebra Topics

Source Variables: TQM2B-13E27-E31

Computations: Compute percent of students whose teacher CHECKED any of the following response options for each subtopic:

Taught before this year OR Taught 1-5 periods this year OR Taught > 5 periods this year.
(BTBMTB**=1 OR BTBMTT**=1 or 2).

Note(s) A student should be indicated as 'Taught' if at least one of their science teachers responded that a topic was taught.

Exhibit Location 6.4 Math

Exhibit Title: Instructional Time in Mathematics in Grade 8

Source Variables: TQM2B-3, SCQ2-18a,b,c,e

Computations: (1) Compute total instructional hours per year: (SCQ2-18a divided by the sum of SCQ2-18b and SCQ2-18c) and then multiplied by SCQ2-18e.

(2) Compute math instructional hours per week: TQM2B-3 divided by 60.

(3) Compute math instructional hours per year: Math instructional hours per week (#2 above) multiplied by instructional weeks in a year (18a divided by the sum of 18b and 18c).

(4) Compute math instructional time as a percent of total instructional time: Math instructional hours per year (#3 above) divided by total instructional hours per year (#1 above)

Note(s)

Exhibit Location 6.11 Math

Exhibit Title: Students Doing Various Activities in Mathematics Class

Source Variables: SQ2-26 or
SQ2(s)-29 a,d,e,k,n

Computations: Compute percent of students reporting response options 1 or 2 to the following questions:

- (1) We discuss our completed homework.
- (2) Teacher shows us how to do science problems.
- (3) We work from worksheets or textbooks on our own.
- (4) We work on science projects.
- (5) We begin our homework

Note(s) GENERAL / INTEGRATED COUNTRIES: SQ2-26
SEPARATE SCIENCE COUNTRIES: SQ2S-29a,d,e,k,n

Exhibit Location 6.12 Math

Exhibit Title: Presentational Modes Used in Mathematics Class

Source Variables: SQ2-26o,p,q,r,t or
SQ2S-29o,p,q,r,t

Computations: Compute percent of students reporting response options 1 or 2 to the following categories:

- (1) Teacher uses the board.
- (2) Teacher uses an overhead projector.
- (3) Teacher uses a computer to demonstrate ideas in science,
- (4) Students uses the board.
- (5) Students use an overhead projector

Note(s) GENERAL / INTEGRATED COUNTRIES: SQ2-26o,p,q,r,t

SEPARATE SCIENCE COUNTRIES: SQ2S-29o,p,q,r,t

Exhibit Location 6.16 Math

Exhibit Title: Index of Emphasis on Calculators in Mathematics (ECMC)

Source Variables: SQ2-26f or SQ2S-29f
TQM2B-7a-e

Computations: Index assigned to three categories:
High: SQ2-26f or SQ2S-29f = option 1 or 2 AND any of TQM2B = option 1 or 2;
Low: SQ2-26f or SQ2S-29f = option 3 or 4 AND any of TQM2B = option 4;
Medium: All other combinations.

Note(s) None Applicable

Exhibit Location 6.23 Math

Exhibit Title: Types of Assessment Teachers Give Quite A Lot or A Great Deal of Weight

Source Variables: TQM2B-19a-g

Computations: Compute percentages of students based on teachers responses of options 3 or 4 to the following categories:

- (1) External standardized tests
- (2) Teacher-made tests requiring explanations
- (3) Teacher-made objective tests
- (4) Homework assignments
- (5) Projects or practical exercises
- (6) Observations of students
- (7) Students responses in class

Note(s) None Applicable

Exhibit Location 7.6 Math

Exhibit Title: Frequency and Seriousness of Student Attendance Problems

Source Variables: SCQ2-17A1-C1

Computations: For column 'At Least Weekly' compute percent of students in schools marking options 4 or 5 to the following categories:

- (1) Arriving late (Tardiness)
- (2) Absenteeism
- (3) Skipping Class

Note(s) None Applicable

Exhibit Location 7.7 Math

Exhibit Title: Frequency and Seriousness of Student Behavior Threatening an Orderly School Environment

Source Variables: SCQ2-17D1-F1

Computations: For column 'At Least Weekly' compute percent of students in schools marking options 4 or 5 to the following categories:

- (1) Violating dress code
- (2) Classroom Disturbance
- (3) Cheating

Note(s) None Applicable

Exhibit Location 7.8 Math

Exhibit Title: Frequency and Seriousness of Student Behavior Threatening a Safe School Environment

Source Variables: SCQ2-17H1-L1

Computations: For column 'At Least Weekly' compute percent of students in schools marking options 4 or 5 to the following categories:

- (1) Vandalism
- (2) Theft
- (3) Intimidation
- (4) Verbal abuse of other students
- (5) Verbal abuse of teachers or staff

Note(s) None Applicable

Source Variables: TQM2B-13a1-a12, d26**Computations:** For all Fractions and Number Sense subtopics, determine the percentage of topics that have been taught only before this year, taught >5 periods this year, taught at least 1-5 periods this year, and not taught yet. Code responses to "Taught Before" and "Taught This Year" variables (BTBMTB** and BTBMTT**) to obtain dichotomous variables indicating when topic has been taught:

TBVAR (topic taught ONLY before this year)
Set to 1 if only checked "taught before this year" (BTBMTB**=1 AND BTBMTT** NOT = 1 or 2)
Set to missing if BOTH TB and TT variables are missing or Do Not Know.
Else set to 0.

T5VAR (topic taught >5 periods this year)
Set to 1 if checked "Taught more than 5 periods this year" (BTBMTT**=2).
Set to missing if TT = missing or Do Not Know.
Else set to 0.

T1VAR (topic taught at least 1-5 periods this year)
Set to 1 if checked "Taught 1-5 periods this year" or "Taught more than 5 periods this year" (BTBMTT**=1 or 2).
Set to missing if TT = missing or Do Not Know.
Else set to 0.

NTVAR (topic not taught yet)
Set to 1 if only checked "Not taught yet" (BTBMTB**=2 AND BTBMTT**=3).
Set to missing if TB and TT = missing or Do Not Know.
Else set to 0.

Compute average value for each of the dichotomous variables across all Fractions and Number Sense topics (a1-a12, d26) to determine the percentage of subtopics. Assign to six categories as follows based on average values:

- 1) More than 80% of subtopics were taught before and NOT this year (TBVAR>0.80)
- 2) >50% to 80% of subtopics were taught before and NOT this year (0.50 < TBVAR <=0.80).
- 3) >50% of subtopics are taught >5 periods this year (T5VAR>0.50)
- 4) >50% of subtopics are taught at least 1-5 periods this year (T1VAR>0.50).
- 5) 50% or less of subtopics are taught at least 1-5 periods this year (T1VAR<=0.50).
- 6) 50% or more of subtopics are not taught yet (NTVAR>=0.50).

Note(s) 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 math exhibit 5.12.

Source Variables: TQM2B-13b13-b18, d25**Computations:** For all Measurement subtopics, determine the percentage of topics that have been taught only before this year, taught >5 periods this year, taught at least 1-5 periods this year, and not taught yet. Code responses to “Taught Before” and “Taught This Year” variables (BTBMTB** and BTBMTT**) to obtain dichotomous variables indicating when topic has been taught:

TBVAR (topic taught ONLY before this year)

Set to 1 if only checked "taught before this year" (BTBMTB**=1 AND BTBMTT** NOT = 1 or 2)

Set to missing if BOTH TB and TT variables are missing or Do Not Know.

Else set to 0.

T5VAR (topic taught >5 periods this year)

Set to 1 if checked "Taught more than 5 periods this year" (BTBMTT**=2).

Set to missing if TT = missing or Do Not Know.

Else set to 0.

T1VAR (topic taught at least 1-5 periods this year)

Set to 1 if checked "Taught 1-5 periods this year" or "Taught more than 5 periods this year" (BTBMTT**=1 or 2).

Set to missing if TT = missing or Do Not Know.

Else set to 0.

NTVAR (topic not taught yet)

Set to 1 if only checked "Not taught yet" (BTBMTB**=2 AND BTBMTT**=3).

Set to missing if TB and TT = missing or Do Not Know.

Else set to 0.

Compute average value for each of the dichotomous variables across all Measurement topics (b13-b18, d25) to determine the percentage of subtopics. Assign to six categories as follows based on average values:

- 1) More than 80% of subtopics were taught before and NOT this year (TBVAR>0.80)
- 2) >50% to 80% of subtopics were taught before and NOT this year (0.50 < TBVAR <=0.80).
- 3) >50% of subtopics are taught >5 periods this year (T5VAR>0.50)
- 4) >50% of subtopics are taught at least 1-5 periods this year (T1VAR>0.50).
- 5) 50% or less of subtopics are taught at least 1-5 periods this year (T1VAR<=0.50).
- 6) 50% or more of subtopics are not taught yet (NTVAR>=0.50).

Note(s) Categories of topic coverage for measurement are based on combined responses to questions about the individual mathematics subtopics in the content area described in math exhibit 5.12.

Exhibit Location R2.10 Math

Exhibit Title: When Data Representations, Analysis, and Probability Topics Are Taught

Source Variables: TQM2B-13f32-f34

Computations: For all Data Representation, Analysis, and Probability subtopics, determine the percentage of topics that have been taught only before this year, taught >5 periods this year, taught at least 1-5 periods this year, and not taught yet. Code responses to "Taught Before" and "Taught This Year" variables (BTBMTB** and BTBMTT**) to obtain dichotomous variables indicating when topic has been taught:

TBVAR (topic taught ONLY before this year)
Set to 1 if only checked "taught before this year" (BTBMTB**=1 AND BTBMTT** NOT = 1 or 2)
Set to missing if BOTH TB and TT variables are missing or Do Not Know.
Else set to 0.

T5VAR (topic taught >5 periods this year)
Set to 1 if checked "Taught more than 5 periods this year" (BTBMTT**=2).
Set to missing if TT = missing or Do Not Know.
Else set to 0.

T1VAR (topic taught at least 1-5 periods this year)
Set to 1 if checked "Taught 1-5 periods this year" or "Taught more than 5 periods this year" (BTBMTT**=1 or 2).
Set to missing if TT = missing or Do Not Know.
Else set to 0.

NTVAR (topic not taught yet)
Set to 1 if only checked "Not taught yet" (BTBMTB**=2 AND BTBMTT**=3).
Set to missing if TB and TT = missing or Do Not Know.
Else set to 0.

Compute average value for each of the dichotomous variables across all Data Representation, Analysis, and Probability topics (f32-f34) to determine the percentage of subtopics. Assign to six categories as follows based on average values:

- 1) More than 80% of subtopics were taught before and NOT this year (TBVAR>0.80)
- 2) >50% to 80% of subtopics were taught before and NOT this year (0.50 < TBVAR <=0.80).
- 3) >50% of subtopics are taught >5 periods this year (T5VAR>0.50)
- 4) >50% of subtopics are taught at least 1-5 periods this year (T1VAR>0.50).
- 5) 50% or less of subtopics are taught at least 1-5 periods this year (T1VAR<=0.50).
- 6) 50% or more of subtopics are not taught yet (NTVAR>=0.50).

Note(s) 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 math exhibit 5.12.

Source Variables: TQM2B-13c19-c24**Computations:** For all Geometry subtopics, determine the percentage of topics that have been taught only before this year, taught >5 periods this year, taught at least 1-5 periods this year, and not taught yet. Code responses to "Taught Before" and "Taught This Year" variables (BTBMTB** and BTBMTT**) to obtain dichotomous variables indicating when topic has been taught:

TBVAR (topic taught ONLY before this year)
Set to 1 if only checked "taught before this year" (BTBMTB**=1 AND BTBMTT** NOT = 1 or 2)
Set to missing if BOTH TB and TT variables are missing or Do Not Know.
Else set to 0.

T5VAR (topic taught >5 periods this year)
Set to 1 if checked "Taught more than 5 periods this year" (BTBMTT**=2).
Set to missing if TT = missing or Do Not Know.
Else set to 0.

T1VAR (topic taught at least 1-5 periods this year)
Set to 1 if checked "Taught 1-5 periods this year" or "Taught more than 5 periods this year" (BTBMTT**=1 or 2).
Set to missing if TT = missing or Do Not Know.
Else set to 0.

NTVAR (topic not taught yet)
Set to 1 if only checked "Not taught yet" (BTBMTB**=2 AND BTBMTT**=3).
Set to missing if TB and TT = missing or Do Not Know.
Else set to 0.

Compute average value for each of the dichotomous variables across all Geometry topics (c19-c24) to determine the percentage of subtopics. Assign to six categories as follows based on average values:

- 1) More than 80% of subtopics were taught before and NOT this year (TBVAR>0.80)
- 2) >50% to 80% of subtopics were taught before and NOT this year (0.50 < TBVAR <=0.80).
- 3) >50% of subtopics are taught >5 periods this year (T5VAR>0.50)
- 4) >50% of subtopics are taught at least 1-5 periods this year (T1VAR>0.50).
- 5) 50% or less of subtopics are taught at least 1-5 periods this year (T1VAR<=0.50).
- 6) 50% or more of subtopics are not taught yet (NTVAR>=0.50).

Note(s) Categories of topic coverage for geometry are based on combined responses to questions about the individual mathematics subtopics in the content area described in math exhibit 5.12.

Exhibit Location R2.12 Math**Exhibit Title:** When Algebra Topics Are Taught

Source Variables: TQM2B-13e27-e31

Computations: For all Algebra subtopics, determine the percentage of topics that have been taught only before this year, taught >5 periods this year, taught at least 1-5 periods this year, and not taught yet. Code responses to “Taught Before” and “Taught This Year” variables (BTBMTB** and BTBMTT**) to obtain dichotomous variables indicating when topic has been taught:

TBVAR (topic taught ONLY before this year)
Set to 1 if only checked "taught before this year" (BTBMTB**=1 AND BTBMTT** NOT = 1 or 2)
Set to missing if BOTH TB and TT variables are missing or Do Not Know.
Else set to 0.

T5VAR (topic taught >5 periods this year)
Set to 1 if checked "Taught more than 5 periods this year" (BTBMTT**=2).
Set to missing if TT = missing or Do Not Know.
Else set to 0.

T1VAR (topic taught at least 1-5 periods this year)
Set to 1 if checked "Taught 1-5 periods this year" or "Taught more than 5 periods this year" (BTBMTT**=1 or 2).
Set to missing if TT = missing or Do Not Know.
Else set to 0.

NTVAR (topic not taught yet)
Set to 1 if only checked "Not taught yet" (BTBMTB**=2 AND BTBMTT**=3).
Set to missing if TB and TT = missing or Do Not Know.
Else set to 0.

Compute average value for each of the dichotomous variables across all Algebra topics (e27-e31) to determine the percentage of subtopics. Assign to six categories as follows based on average values:

- 1) More than 80% of subtopics were taught before and NOT this year (TBVAR>0.80)
- 2) >50% to 80% of subtopics were taught before and NOT this year (0.50 < TBVAR <=0.80).
- 3) >50% of subtopics are taught >5 periods this year (T5VAR>0.50)
- 4) >50% of subtopics are taught at least 1-5 periods this year (T1VAR>0.50).
- 5) 50% or less of subtopics are taught at least 1-5 periods this year (T1VAR<=0.50).
- 6) 50% or more of subtopics are not taught yet (NTVAR>=0.50).

Note(s) Categories of topic coverage for algebra are based on combined responses to questions about the individual mathematics subtopics in the content area described in math exhibit 5.12.

Exhibit Location R3.7 Math**Exhibit Title:** Instructional Time in School

Source Variables: SCQ2-18a-e

Computations:

- i) Compute instructional weeks/year: instructional days/year (18a) divided by total days/week (full days + half days: 18b + c).
- ii) Instructional hours/year computed from instructional weeks/year (i) multiplied by instructional hours per week (18e).
- iii) Total hours/year computed from instructional weeks/year (i) multiplied by total hours per week (18d).
- iv) Percent of Hours Spent on Instruction computed as the ratio of Instructional Hours (ii) to Total Hours (iii).

Note(s) Percent of Total Hours computed as the ratio of instructional hours to total hours averaged across students.

Exhibit Location 5.11 Science

Exhibit Title: Science Topics in the Intended Curriculum for At Least 90% of Students, Up to and Including Eighth Grade

Source Variables: CQS-12a1-f42

Computations: Compute the percentage of subtopic items with responses of option 1 overall and for the six content categories:

Overall (a1-f42)
Earth Science (a1-a4)
Biology (b5-b11)
Physics (d24-d33)
Chemistry (c12-c23)
Environmental and Resource Issues (e34-e36)
Scientific Inquiry and the Nature of Science (f37-f42)

Note(s) None Applicable

Exhibit Location 5.12 Science

Exhibit Title: Percentages of Students Taught Earth Science Topics

Source Variables: TQS2B-13A1-A4

Computations: Compute percent of students whose teacher CHECKED any of the following response options for each subtopic:

Taught before this year OR Taught 1-5 periods this year OR Taught > 5 periods this year.
(BTBSTB**=1 OR BTBSTT**=1 or 2).

Note(s) A student should be indicated as 'Taught' if at least one of their science teachers responded that a topic was taught.

Exhibit Location 5.13 Science

Exhibit Title: Percentages of Students Taught Biology Topics

Source Variables: TQS2B-13B5-B10

Computations: Compute percent of students whose teacher CHECKED any of the following response options for each subtopic:

Taught before this year OR Taught 1-5 periods this year OR Taught > 5 periods this year.
(BTBSTB**=1 OR BTBSTT**=1 or 2).

Note(s) A student should be indicated as 'Taught' if at least one of their science teachers responded that a topic was taught.

Exhibit Location 5.14 Science

Exhibit Title: Percentages of Students Taught Physics Topics

Source Variables: TQS2B-13D15-D22

Computations: Compute percent of students whose teacher CHECKED any of the following response options for each subtopic:

Taught before this year OR Taught 1-5 periods this year OR Taught > 5 periods this year.
(BTBSTB**=1 OR BTBSTT**=1 or 2).

Note(s) A student should be indicated as 'Taught' if at least one of their science teachers responded that a topic was taught.

Exhibit Location 5.15 Science

Exhibit Title: Percentages of Students Taught Chemistry Topics

Source Variables: TQS2B-13C11-C14

Computations: Compute percent of students whose teacher CHECKED any of the following response options for each subtopic:

Taught before this year OR Taught 1-5 periods this year OR Taught > 5 periods this year.
(BTBSTB**=1 OR BTBSTT**=1 or 2).

Note(s) A student should be indicated as 'Taught' if at least one of their science teachers responded that a topic was taught.

Exhibit Location 5.16 Science

Exhibit Title: Percentages of Students Taught Environmental and Resource Issue Topics

Source Variables: TQS2B-13E23-E25

Computations: Compute percent of students whose teacher CHECKED any of the following response options for each subtopic:

Taught before this year OR Taught 1-5 periods this year OR Taught > 5 periods this year.
(BTBSTB**=1 OR BTBSTT**=1 or 2).

Note(s) A student should be indicated as 'Taught' if at least one of their science teachers responded that a topic was taught.

Exhibit Location 5.17 Science

Exhibit Title: Percentages of Students Taught Scientific Inquiry and the Nature of Science Topics

Source Variables: TQS2B-13F26-F31

Computations: Compute percent of students whose teacher CHECKED any of the following response options for each subtopic:

Taught before this year OR Taught 1-5 periods this year OR Taught > 5 periods this year.
(BTBSTB**=1 OR BTBSTT**=1 or 2).

Note(s) A student should be indicated as 'Taught' if at least one of their science teachers responded that a topic was taught.

Exhibit Location 6.4 Science

Exhibit Title: Instructional Time in the Sciences in Grade 8

Source Variables: TQS2B-3, SCQ2-18a,b,c,e

Computations:

- (1) Compute total instructional hours per year: (SCQ2-18a divided by the sum of SCQ2-18b and SCQ2-18c) and then multiplied by SCQ2-18e.
- (2) Compute science instructional hours per week: TQS2B-3 divided by 60.
- (3) Compute science instructional hours per year: Science instructional hours per week (#2 above) multiplied by instructional weeks in a year (18a divided by the sum of 18b and 18c).
- (4) Compute science instructional time as a percent of total instructional time: Science instructional hours per year (#3 above) divided by total instructional hours per year (#1 above)

Note(s) GENERAL / INTEGRATED PANELS: Computations based on all ITCOURSE codes.

SEPARATE SCIENCE PANELS: Computations for each science subject are based only on the science teachers for those courses, filtered by ITCOURSE:

Earth Science ITCOURSE = 5;
Biology / Life Science ITCOURSE = 3 or 8
Physics /Physical Science ITCOURSE = 2 or 7
Chemistry ITCOURSE = 4

Exhibit Location 6.10 Science

Exhibit Title: Students Doing Various Activities in Science Class

Source Variables: SQ2-31a,d,e,k,n or
SQ2S-34a,d,e,k,n or
SQ2S-38a,d,e,k,n or
SQ2S-42a,d,e,k,n or
SQ2S-46a,d,e,k,n or

Computations: Compute percent of students reporting response options 1 or 2 to the following questions:

- (1) We discuss our completed homework.
- (2) Teacher shows us how to do science problems.
- (3) We work from worksheets or textbooks on our own.
- (4) We work on science projects.
- (5) We begin our homework

Note(s) GENERAL / INTEGRATED PANELS: Computations based on SQ2-31a,d,e,k,n.

SEPARATE SCIENCE PANELS: Computations for each science subject are based only on:

Earth Science: SQ2S-42a,d,e,k,n
Biology / Life Science: SQ2S-34a,d,e,k,n
Physics /Physical Science: SQ2S-46a,d,e,k,n
Chemistry: SQ2S-38a,d,e,k,n

Exhibit Location 6.11 Science

Exhibit Title: Presentational Modes Used in Science Class

Source Variables: SQ2-31q,r,s,t,v or
SQ2S 34 q,r,s,t,v or
SQ2S 38 q,r,s,t,v or
SQ2S 42 q,r,s,t,v or
SQ2S 46 q,r,s,t,v or

Computations: Compute percent of students reporting response options 1 or 2 to the following categories:

- (1) Teacher uses the board.
- (2) Teacher uses an overhead projector.
- (3) Teacher uses a computer to demonstrate ideas in science,
- (4) Students uses the board.
- (5) Students use an overhead projector

Note(s) GENERAL / INTEGRATED PANELS: Computations based on SQ2-31q,r,s,t,v

SEPARATE SCIENCE PANELS: Computations for each science subject are based only on:

Earth Science: SQ2S-42q,r,s,t,v
Biology / Life Science: SQ2S-34q,r,s,t,v
Physics / Physical Science: SQ2S-46q,r,s,t,v
Chemistry: SQ2S-38q,r,s,t,v

Exhibit Location 6.14 Science

Exhibit Title: Index of Emphasis on Scientific Reasoning and Problem-Solving (ESRPS)

Source Variables: TQS2B-12h,i and SQ2-31o,p or
SQ2S-34o,p or
SQ2S-38o,p or
SQ2S-42o,p or
SQ2S-46o,p

Computations: Index is based, in part, on the sum of teachers responses to TQS2B-12h and i:

- (h) Teachers' reports on percentage of time spent on teaching demonstrations of experiments in a typical month of science lessons;
- (i) Teachers' reports on percentage of time spent on students conducting an experiment in science lessons.

Index assigned to three categories:
High: Sum of TQS2-Bh and I is 25% or more AND students respond with options 1 or 2 for SQ2-31o,p or (SQ2S-34o,p or SQ2S-38o,p or SQ2S-42o,p or SQ2S-46o,p);
Low: Sum of TQS2-Bh and i is less than 10% or more AND students respond with options 3 or 4 for SQ2-31o,p or (SQ2S-34o,p or SQ2S-38o,p or SQ2S-42o,p or SQ2S-46o,p);
Medium: All other combinations

Note(s) GENERAL / INTEGRATED PANELS: Computations based on all ITCOURSE codes and (SQ2-31o,p)

SEPARATE SCIENCE PANELS: Computations for each science subject are based only on the science teachers for those courses, filtered by ITCOURSE:

Earth Science ITCOURSE = 5 and SQ2S-42o,p;
Biology / Life Science ITCOURSE = 3 or 8 and SQ2S-34o,p;
Physics / Physical Science ITCOURSE = 2 or 7 and SQ2S-46o,p;
Chemistry ITCOURSE = 4 and SQ2S-38o,p.

Exhibit Location 6.15 Science

Exhibit Title: Frequency of Computer Use in Science Classes

Source Variables: SQ2-31g or
SQ2S-34g or
SQ2S-38g or
SQ2S-42g or
SQ2S-46g or

Computations: Compute percent of students responding option 1 or 2 for each science subject area.

Note(s) GENERAL / INTEGRATED COUNTRIES: SQ2-31g

SEPARATE SCIENCE PANELS: Computations for each science subject are based only on:

Earth Science: SQ2S-42g
Biology / Life Science: SQ2S-34g
Physics /Physical Science: SQ2S-46g
Chemistry: SQ2S-38g

Exhibit Location 6.20 Science

Exhibit Title: Types of Assessment Teachers Give Quite A Lot or A Great Deal of Weight

Source Variables: TQS2B-19a-g

Computations: Compute percentages of students based on teachers responses of options 3 or 4 to the following categories:

- (1) External standardized tests
- (2) Teacher-made tests requiring explanations
- (3) Teacher-made objective tests
- (4) Homework assignments
- (5) Projects or practical exercises
- (6) Observations of students
- (7) Students responses in class

Note(s) None Applicable

Exhibit Location 7.6 Science

Exhibit Title: Frequency and Seriousness of Student Attendance Problems

Source Variables: SCQ2-17A1-C1

Computations: For column 'At Least Weekly' compute percent of students in schools marking options 4 or 5 to the following categories:

- (1) Arriving late (Tardiness)
- (2) Absenteeism
- (3) Skipping Class

Note(s) None Applicable

Exhibit Location 7.7 Science

Exhibit Title: Frequency and Seriousness of Student Behavior Threatening an Orderly School Environment

Source Variables: SCQ2-17D1-F1

Computations: For column 'At Least Weekly' compute percent of students in schools marking options 4 or 5 to the following categories:

- (1) Violating dress code
- (2) Classroom Disturbance
- (3) Cheating

Note(s) None Applicable

Exhibit Location 7.8 Science

Exhibit Title: Frequency and Seriousness of Student Behavior Threatening a Safe School Environment

Source Variables: SCQ2-17H1-L1

Computations: For column 'At Least Weekly' compute percent of students in schools marking options 4 or 5 to the following categories:

- (1) Vandalism
- (2) Theft
- (3) Intimidation
- (4) Verbal abuse of other students
- (5) Verbal abuse of teachers or staff

Note(s) None Applicable

Source Variables: TQS2B-13a1-a4**Computations:** For all Earth Science subtopics, determine the percentage of topics that have been taught only before this year, taught >5 periods this year, taught at least 1-5 periods this year, and not taught yet. Code responses to "Taught Before" and "Taught This Year" variables (BTBSTB** and BTBSTT**) to obtain dichotomous variables indicating when topic has been taught:

TBVAR (topic taught ONLY before this year)
Set to 1 if only checked "taught before this year" (BTBSTB**=1 AND BTBSTT** NOT = 1 or 2)
Set to missing if BOTH TB and TT variables are missing or Do Not Know.
Else set to 0.

T5VAR (topic taught >5 periods this year)
Set to 1 if checked "Taught more than 5 periods this year" (BTBSTT**=2).
Set to missing if TT = missing or Do Not Know.
Else set to 0.

T1VAR (topic taught at least 1-5 periods this year)
Set to 1 if checked "Taught 1-5 periods this year" or "Taught more than 5 periods this year" (BTBSTT**=1 or 2).
Set to missing if TT = missing or Do Not Know.
Else set to 0.

NTVAR (topic not taught yet)
Set to 1 if only checked "Not taught yet" (BTBSTB**=2 AND BTBSTT**=3).
Set to missing if TB and TT = missing or Do Not Know.
Else set to 0.

Compute average value for each of the dichotomous variables across all Earth Science topics (a1-a4) to determine the percentage of subtopics. Assign to six categories as follows based on average values:

- 1) More than 80% of subtopics were taught before and NOT this year (TBVAR>0.80)
- 2) >50% to 80% of subtopics were taught before and NOT this year (0.50 < TBVAR <=0.80).
- 3) >50% of subtopics are taught >5 periods this year (T5VAR>0.50)
- 4) >50% of subtopics are taught at least 1-5 periods this year (T1VAR>0.50).
- 5) 50% or less of subtopics are taught at least 1-5 periods this year (T1VAR<=0.50).
- 6) 50% or more of subtopics are not taught yet (NTVAR>=0.50).

Note(s) 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 science exhibit 5.12.

Exhibit Location R2.10 Science

Exhibit Title: When Biology Topics Are Taught

Source Variables: TQS2B-13b5-b10

Computations: For all Biology subtopics, determine the percentage of topics that have been taught only before this year, taught >5 periods this year, taught at least 1-5 periods this year, and not taught yet. Code responses to "Taught Before" and "Taught This Year" variables (BTBSTB** and BTBSTT**) to obtain dichotomous variables indicating when topic has been taught:

TBVAR (topic taught ONLY before this year)
Set to 1 if only checked "taught before this year" (BTBSTB**=1 AND BTBSTT** NOT = 1 or 2)
Set to missing if BOTH TB and TT variables are missing or Do Not Know.
Else set to 0.

T5VAR (topic taught >5 periods this year)
Set to 1 if checked "Taught more than 5 periods this year" (BTBSTT**=2).
Set to missing if TT = missing or Do Not Know.
Else set to 0.

T1VAR (topic taught at least 1-5 periods this year)
Set to 1 if checked "Taught 1-5 periods this year" or "Taught more than 5 periods this year" (BTBSTT**=1 or 2).
Set to missing if TT = missing or Do Not Know.
Else set to 0.

NTVAR (topic not taught yet)
Set to 1 if only checked "Not taught yet" (BTBSTB**=2 AND BTBSTT**=3).
Set to missing if TB and TT = missing or Do Not Know.
Else set to 0.

Compute average value for each of the dichotomous variables across all Biology topics (b5-b10) to determine the percentage of subtopics. Assign to six categories as follows based on average values:

- 1) More than 80% of subtopics were taught before and NOT this year (TBVAR>0.80)
- 2) >50% to 80% of subtopics were taught before and NOT this year (0.50 < TBVAR <=0.80).
- 3) >50% of subtopics are taught >5 periods this year (T5VAR>0.50)
- 4) >50% of subtopics are taught at least 1-5 periods this year (T1VAR>0.50).
- 5) 50% or less of subtopics are taught at least 1-5 periods this year (T1VAR<=0.50).
- 6) 50% or more of subtopics are not taught yet (NTVAR>=0.50).

Note(s) Categories of topic coverage for biology are based on combined responses to questions about the individual science subtopics in the content area described in science exhibit 5.13.

Source Variables: TQS2B-13d15-d22**Computations:** For all Physics subtopics, determine the percentage of topics that have been taught only before this year, taught >5 periods this year, taught at least 1-5 periods this year, and not taught yet. Code responses to "Taught Before" and "Taught This Year" variables (BTBSTB** and BTBSTT**) to obtain dichotomous variables indicating when topic has been taught:

TBVAR (topic taught ONLY before this year)
Set to 1 if only checked "taught before this year" (BTBSTB**=1 AND BTBSTT** NOT = 1 or 2)
Set to missing if BOTH TB and TT variables are missing or Do Not Know.
Else set to 0.

T5VAR (topic taught >5 periods this year)
Set to 1 if checked "Taught more than 5 periods this year" (BTBSTT**=2).
Set to missing if TT = missing or Do Not Know.
Else set to 0.

T1VAR (topic taught at least 1-5 periods this year)
Set to 1 if checked "Taught 1-5 periods this year" or "Taught more than 5 periods this year" (BTBSTT**=1 or 2).
Set to missing if TT = missing or Do Not Know.
Else set to 0.

NTVAR (topic not taught yet)
Set to 1 if only checked "Not taught yet" (BTBSTB**=2 AND BTBSTT**=3).
Set to missing if TB and TT = missing or Do Not Know.
Else set to 0.

Compute average value for each of the dichotomous variables across all Physics topics (d15-d22) to determine the percentage of subtopics. Assign to six categories as follows based on average values:

- 1) More than 80% of subtopics were taught before and NOT this year (TBVAR>0.80)
- 2) >50% to 80% of subtopics were taught before and NOT this year (0.50 < TBVAR <=0.80).
- 3) >50% of subtopics are taught >5 periods this year (T5VAR>0.50)
- 4) >50% of subtopics are taught at least 1-5 periods this year (T1VAR>0.50).
- 5) 50% or less of subtopics are taught at least 1-5 periods this year (T1VAR<=0.50).
- 6) 50% or more of subtopics are not taught yet (NTVAR>=0.50).

Note(s) Categories of topic coverage for physics are based on combined responses to questions about the individual science subtopics in the content area described in science exhibit 5.14.

Source Variables: TQS2B-13c11-c14**Computations:** For all Chemistry subtopics, determine the percentage of topics that have been taught only before this year, taught >5 periods this year, taught at least 1-5 periods this year, and not taught yet. Code responses to "Taught Before" and "Taught This Year" variables (BTBSTB** and BTBSTT**) to obtain dichotomous variables indicating when topic has been taught:

TBVAR (topic taught ONLY before this year)
Set to 1 if only checked "taught before this year" (BTBSTB**=1 AND BTBSTT** NOT = 1 or 2)
Set to missing if BOTH TB and TT variables are missing or Do Not Know.
Else set to 0.

T5VAR (topic taught >5 periods this year)
Set to 1 if checked "Taught more than 5 periods this year" (BTBSTT**=2).
Set to missing if TT = missing or Do Not Know.
Else set to 0.

T1VAR (topic taught at least 1-5 periods this year)
Set to 1 if checked "Taught 1-5 periods this year" or "Taught more than 5 periods this year" (BTBSTT**=1 or 2).
Set to missing if TT = missing or Do Not Know.
Else set to 0.

NTVAR (topic not taught yet)
Set to 1 if only checked "Not taught yet" (BTBSTB**=2 AND BTBSTT**=3).
Set to missing if TB and TT = missing or Do Not Know.
Else set to 0.

Compute average value for each of the dichotomous variables across all Chemistry topics (c11-c14) to determine the percentage of subtopics. Assign to six categories as follows based on average values:

- 1) More than 80% of subtopics were taught before and NOT this year (TBVAR>0.80)
- 2) >50% to 80% of subtopics were taught before and NOT this year (0.50 < TBVAR <=0.80).
- 3) >50% of subtopics are taught >5 periods this year (T5VAR>0.50)
- 4) >50% of subtopics are taught at least 1-5 periods this year (T1VAR>0.50).
- 5) 50% or less of subtopics are taught at least 1-5 periods this year (T1VAR<=0.50).
- 6) 50% or more of subtopics are not taught yet (NTVAR>=0.50).

Note(s) Categories of topic coverage for chemistry are based on combined responses to questions about the individual science subtopics in the content area described in science exhibit 5.15.

Source Variables: TQS2B-13e23-e25**Computations:** For all Environmental and Resource Issues subtopics, determine the percentage of topics that have been taught only before this year, taught >5 periods this year, taught at least 1-5 periods this year, and not taught yet. Code responses to "Taught Before" and "Taught This Year" variables (BTBSTB** and BTBSTT**) to obtain dichotomous variables indicating when topic has been taught:

TBVAR (topic taught ONLY before this year)
Set to 1 if only checked "taught before this year" (BTBSTB**=1 AND BTBSTT** NOT = 1 or 2)
Set to missing if BOTH TB and TT variables are missing or Do Not Know.
Else set to 0.

T5VAR (topic taught >5 periods this year)
Set to 1 if checked "Taught more than 5 periods this year" (BTBSTT**=2).
Set to missing if TT = missing or Do Not Know.
Else set to 0.

T1VAR (topic taught at least 1-5 periods this year)
Set to 1 if checked "Taught 1-5 periods this year" or "Taught more than 5 periods this year" (BTBSTT**=1 or 2).
Set to missing if TT = missing or Do Not Know.
Else set to 0.

NTVAR (topic not taught yet)
Set to 1 if only checked "Not taught yet" (BTBSTB**=2 AND BTBSTT**=3).
Set to missing if TB and TT = missing or Do Not Know.
Else set to 0.

Compute average value for each of the dichotomous variables across all Environmental and Resource Issues topics (e23-e25) to determine the percentage of subtopics. Assign to six categories as follows based on average values:

- 1) More than 80% of subtopics were taught before and NOT this year (TBVAR>0.80)
- 2) >50% to 80% of subtopics were taught before and NOT this year (0.50 < TBVAR <=0.80).
- 3) >50% of subtopics are taught >5 periods this year (T5VAR>0.50)
- 4) >50% of subtopics are taught at least 1-5 periods this year (T1VAR>0.50).
- 5) 50% or less of subtopics are taught at least 1-5 periods this year (T1VAR<=0.50).
- 6) 50% or more of subtopics are not taught yet (NTVAR>=0.50).

Note(s) 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 science exhibit 5.16.

Exhibit Location R2.14 Science

Exhibit Title: When Scientific Inquiry Skills and the Nature of Science Topics Are Taught

Source Variables: TQS2B-13f26-f31

Computations: For all Scientific Inquiry Skills and the Nature of Science subtopics, determine the percentage of topics that have been taught only before this year, taught >5 periods this year, taught at least 1-5 periods this year, and not taught yet. Code responses to “Taught Before” and “Taught This Year” variables (BTBSTB** and BTBSTT**) to obtain dichotomous variables indicating when topic has been taught:

TBVAR (topic taught ONLY before this year)
Set to 1 if only checked "taught before this year" (BTBSTB**=1 AND BTBSTT** NOT = 1 or 2)
Set to missing if BOTH TB and TT variables are missing or Do Not Know.
Else set to 0.

T5VAR (topic taught >5 periods this year)
Set to 1 if checked "Taught more than 5 periods this year" (BTBSTT**=2).
Set to missing if TT = missing or Do Not Know.
Else set to 0.

T1VAR (topic taught at least 1-5 periods this year)
Set to 1 if checked "Taught 1-5 periods this year" or "Taught more than 5 periods this year" (BTBSTT**=1 or 2).
Set to missing if TT = missing or Do Not Know.
Else set to 0.

NTVAR (topic not taught yet)
Set to 1 if only checked "Not taught yet" (BTBSTB**=2 AND BTBSTT**=3).
Set to missing if TB and TT = missing or Do Not Know.
Else set to 0.

Compute average value for each of the dichotomous variables across all Scientific Inquiry Skills and the Nature of Science topics (f26-f31) to determine the percentage of subtopics. Assign to six categories as follows based on average values:

- 1) More than 80% of subtopics were taught before and NOT this year (TBVAR>0.80)
- 2) >50% to 80% of subtopics were taught before and NOT this year (0.50 < TBVAR <=0.80).
- 3) >50% of subtopics are taught >5 periods this year (T5VAR>0.50)
- 4) >50% of subtopics are taught at least 1-5 periods this year (T1VAR>0.50).
- 5) 50% or less of subtopics are taught at least 1-5 periods this year (T1VAR<=0.50).
- 6) 50% or more of subtopics are not taught yet (NTVAR>=0.50).

Note(s) Categories of topic coverage for scientific inquiry skills and the nature of science are based on combined responses to questions about the individual science subtopics in the content area described in science exhibit 5.17.

Exhibit Location R3.7 Science

Exhibit Title: Instructional Time in School

Source Variables: SCQ2-18a-e

Computations:

- i) Compute instructional weeks/year: instructional days/year (18a) divided by total days/week (full days + half days: 18b + c).
- ii) Instructional hours/year computed from instructional weeks/year (i) multiplied by instructional hours per week (18e).
- iii) Total hours/year computed from instructional weeks/year (i) multiplied by total hours per week (18d).
- iv) Percent of Hours Spent on Instruction computed as the ratio of Instructional Hours (ii) to Total Hours (iii).

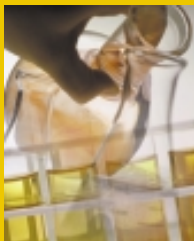
Note(s) Percent of Total Hours computed as the ratio of instructional hours to total hours averaged across students.



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The
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Supplement 3



IEA's Repeat
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at the Eighth Grade



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