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Variables Derived from the  
Student and Teacher  
Questionnaires  
Populations 1 and 2

User Guide for the TIMSS  
International Database

Primary and Middle School Years – 1995 Assessment

Third  
International  
Mathematics  
and  
Science  
Study

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# Supplement 4

## Variables Derived from the Student and Teacher Questionnaires – Populations 1 and 2

### Overview

This supplement contains documentation on all of the derived variables contained in the international background data files that are based on the student and teacher background questionnaire variables. These variables were used to report contextual data in the TIMSS international reports, and may also be used in secondary analyses. Tables S4.1 through S4.4 list all of the derived variables published in the international reports:

*Mathematics Achievement in the Primary School Years* (Mullis, et. al., 1996)

*Science Achievement in the Primary School Years* (Martin, et. al., 1996)

*Mathematics Achievement in the Middle School Years* (Beaton, et. al., 1997)

*Science Achievement in the Middle School Years* (Beaton, et. al., 1997)

Following Tables S4.1 through S4.4, there are four sections of this supplement corresponding to the background questionnaire type from which the reporting variables are derived:

Section 1: Population 1 Student

Section 2: Population 1 Teacher

Section 3: Population 2 Student

Section 4: Population 2 Teacher

Each of these sections includes specific documentation for 1,h of they includsf550177



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## General Documentation Issues

### Derived Variables Based On Student Background Data – Population 1

In contrast to Population 2, only a single version of the student questionnaire was administered to Population 1 students. The source variables and analysis notes for Population 1 reference the use of specific background questionnaire items (SQ1-\*\*). The derived variables pertaining to general background questions (ASDG\*\*\*\*), mathematics-related questions (ASDM\*\*\*\*), and science-related questions (ASDS\*\*\*\*) are computed for all students.

### Derived Variables Based On Teacher Background Data – Population 1

For Population 1, there was a single teacher questionnaire, since in most countries both mathematics and science are taught by a single classroom teacher. The source variables and analysis notes reference the use of the appropriate teacher questionnaire items (TQ1-\*\*). In general, the derived variables based on general background or classroom-related questions (ATDG\*\*\*\* or ATDC\*\*\*\*), mathematics-related questions (ATDM\*\*\*\*), and science-related questions (ATDS\*\*\*\*) are included for all teachers. In some countries, however, there are separate teachers for mathematics and science, and either one or the other teacher answered only the portion of the background questions relevant to the subject that they teach. In these cases, data in derived variables related to either mathematics or science will not be included for teachers of the other subjects. In a few of the countries with separate mathematics and science teachers, some of the general background or classroom-related questions were asked only of the mathematics teacher. Wherever possible, missing classroom data for science teachers were copied from the mathematics teacher in the same classroom. These cases are described in Supplement 3 and also are indicated in this supplement in the Tables of National Exclusion and Adaptation Documentation.

## Derived Variables Based On Student Background Data – Population 2

For Population 2, 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 non-specialized (SQ2) or specialized (SQ2(s)) 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-\*\* = General student background questions or questions pertaining to mathematics contained in both the specialized and non-specialized

## Derived Variables Based On Teacher Background Data – Population 2

Since there were two types of Population 2 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

For Population 2, there are three types of derived c 0.091 Tw (hleacher QuTsn2)L

**Table S4.1**  
**Index of Derived Variables Included in the International Report for Mathematics Population 1**

Report Table/Figure	Table/Figure Reference Location*	Derived Variable	Label
Figure 4.3	AMRF4.3	ASDGMATT	GEN\OVERALL ATTITUDE\TOWARDS MATHEMATICS
Figure 5.1	AMRF5.1a	ATDMAGR2	MAT\FORMAL REPRESENTATION OF WORLD
	AMRF5.1b	ATDMAGR5	MAT\NATURAL TALENT FOR MATH
	AMRF5.1c	ATDGAGR4	GEN\PRACTICE TO OVERCOME DIFFICULTY
	AMRF5.1d	ATDMAGR6	MAT\USE MORE THAN 1 REPRESENTATION
Figure 5.2	AMRF5.2a	ATDMIMP1	MAT\GD\IMPT\REMEMBER FORMULAS
	AMRF5.2b	ATDMIMP4	MAT\GD\IMPT\THINK CREATIVELY
	AMRF5.2c	ATDMIMP5	MAT\GD\IMPT\HOW USED IN REAL WORLD
	AMRF5.2d	ATDMIMP6	MAT\GD\IMPT\SUPPORT SOLUTIONS
Figure 5.4	AMRF5.4a	ATDGLM01	GEN\CLSS\DIFFERENT ACADEMIC ABILITY
	AMRF5.4b	ATDGLM03	GEN\CLSS\SPECIAL NEEDS
	AMRF5.4c	ATDGLM05	GEN\CLSS\DISRUPTIVE STUDENTS
	AMRF5.4d	ATDGLM11	GEN\CLSS\SHORTGE OF DEMNSTR EQUIPMNT
	AMRF5.4e	ATDGLM12	GEN\CLSS\INADEQUATE PHYSICL FACILITS
	AMRF5.4f	ATDGLM13	GEN\CLSS\HIGH STUDENT TEACHER RATIO
Figure 5.5	AMRF5.5a	ATDMLES4	MAT\WORK TOGETHER\STUDENTS INTERACT
	AMRF5.5b	ATDMLES3	MAT\WORK TOGETHER\TEACHER TEACHES
	AMRF5.5c	ATDMLES2	MAT\INDIVIDUAL WORK\ASSISTANCE
	AMRF5.5d	ATDMLES1	MAT\INDIVIDUAL WORK\NO ASSISTANCE
	AMRF5.5e	ATDMLES6	MAT\WORK IN GROUPS\ASSISTANCE
	AMRF5.5f	ATDMLES5	MAT\WORK IN GROUPS\NO ASSISTANCE
Table 1.1	AMRT1.1c	ASDAGE	GEN\STUDENT'S AGE
Table 4.1	AMRT4.1a	ASDGPSA	GEN\HOME\POSSESS ALL\COMPUTER\DESK\DICTI
	AMRT4.1b	ASDGPSN	GEN\HOME\NOT POSSESS ALL\COMPUTER\DESK\ID
Table 4.4	AMRT4.4	ASDGBRNP	GEN#\ BORN IN COUNTRY\PARENTS
Table 4.9	AMRT4.9	ASDSTUDM	GEN\DAILY HOURS SPENT STUDYING MATH
Table 4.10	AMRT4.10a	ASDGDAY1	GEN\OUTSIDE SCHL\WATCH TV OR VIDEOS
	AMRT4.10b	ASDGDAY2	GEN\OUTSIDE SCHL\PLAY COMPUTER GAMES

**Table S4.1**  
**Index of Derived Variables Included in the International Report for Mathematics Population 1 (Continued)**

Report Table/Figure	Table/Figure Reference Location*	Derived Variable	Label
Table 5.5	AMRT5.5a	ATDGACT1	GEN\OUTSIDE SCHL\PREPARE TEST
	AMRT5.5b	ATDGACT2	GEN\OUTSIDE SCHL\READ STUDENT WORK
	AMRT5.5c	ATDGACT3	GEN\OUTSIDE SCHL\PLAN LESSONS
	AMRT5.5d	ATDGACT4	GEN\OUTSIDE SCHL\MEET STUDENTS
	AMRT5.5e	ATDGACT5	GEN\OUTSIDE SCHL\MEET PARENTS
	AMRT5.5g	ATDGACT7	GEN\OUTSIDE SCHL\UPDATE STUD RECORDS
	AMRT5.5h	ATDGACT8	GEN\OUTSIDE SCHL\ADMINISTRATVE TASKS
	Table 5.6	AMRT5.6	ATDGMEET
Table 5.7	AMRT5.7	ATDCSIZE	GEN\CLSS\NUMBER OF BOYS & GIRLS IN CLASS
Table 5.8	AMRT5.8a	ATDMFAM1	MAT\NATIONAL CURRICULUM GUIDE
	AMRT5.8b	ATDGFAM3	MAT\REGIONAL CURRICULUM GUIDE
Table 5.9	AMRT5.9a	ATDMSRC1	MAT\SOURCE\WHICH TOPIC TO TEACH
	AMRT5.9b	ATDMSRC2	MAT\SOURCE\HOW TO PRESENT A TOPIC
Table 5.14	AMRT5.14	ATDMCALU	MAT\FREQUENCY STUDENTS USE CALCS
Table 5.15	AMRT5.15b	ATDGCAL1	GEN\CALCS FOR CHECKING ANSWERS
	AMRT5.15c	ATDGCAL2	GEN\CALCS FOR TESTS AND EXAMS
	AMRT5.15d	ATDGCAL3	GEN\CALCS FOR ROUTINE COMPUTATIONS
	AMRT5.15e	ATDGCAL4	GEN\CALCS FOR COMPLEX PROBLEMS
	AMRT5.15f	ATDGCAL5	GEN\CALCS FOR NUMBER CONCEPTS
	Table 5.17	AMRT5.17	ATDMASK4
Table 5.19	AMRT5.19	ATDMHWRK	MAT\AVERAGE TIME NEEDED FOR HOMEWK

\*The international table or figure reference location included for each derived variable is based on the general definitions described in Table 7.5 in the User Guide.

Note: One derived variable (ASDGPS) not reported in any international tables or figures is not included in the index.



## Table S4.2

**Table S4.2**  
**Index of Derived Variables Included in the International Report for Science**  
**Population 1 (Continued)**

Report Table/Figure	Table/Figure Reference Location*	Derived Variable	Label
Table 5.7	ASRT5.7	ATDGMEET	GEN\MEETINGS WITH OTHER TEACHERS
Table 5.8	ASRT5.8a	ATDSFAM2	SCI\NATIONAL CURRICULUM GUIDE
	ASRT5.8b	ATDGFAM3	MAT\REGIONAL CURRICULUM GUIDE
Table 5.9	ASRT5.9	ATDCSIZE	GEN\CLSS\NUMBER OF BOYS & GIRLS IN CLASS

**Table S4.3**  
**Index of Derived Variables Included in the International Report for Mathematics Population 2**

Report Table/Figure	Table/Figure Reference Location*	Derived Variable	Label
Figure 4.3	BMRF4.3	BSDMLIKE	MAT\LIKE MATHEMATICS
Figure 4.4	BMRF4.4	BSDGMATT	GEN\OVERALL ATTITUDE\TOWARD MATHEMATICS
Figure 5.1	BMRF5.1a	BTDMAGR2	MAT\FORMAL REPRESENTATION OF WORLD
	BMRF5.1b	BTDMAGR5	MAT\NATURAL TALENT FOR MATH
	BMRF5.1c	BTDGAGR4	GEN\PRACTICE TO OVERCOME DIFFICULTY

**Table S4.3**  
**Index of Derived Variables Included in the International Report for Science Population 2 (Continued)**

Report Table/Figure	Table/Figure Reference Location*	Derived Variable	Label
Table 4.8	BMRT4.8a	BSDGDAY1	GEN\OUTSIDE SCHL\WATCH TV OR VIDEOS
	BMRT4.8b	BSDGDAY2	GEN\OUTSIDE SCHL\PLAY COMPUTER GAMES
	BMRT4.8c	BSDGDAY3	GEN\OUTSIDE SCHL\PLAY WITH FRIENDS
	BMRT4.8d	BSDGDAY4	GEN\OUTSIDE SCHL\DOING JOBS AT HOME
	BMRT4.8e	BSDGDAY5	GEN\OUTSIDE SCHL\PLAYING SPORTS
	BMRT4.8f	BSDGDAY6	GEN\OUTSIDE SCHL\READING A BOOK
Table 4.9	BMRT4.9	BSDSTUD	GEN\DAILY HOURS SPENT STUDYING
Table 4.10	BMRT4.10	BSDGDTV	GEN\OUTSIDE SCHL\WATCH TV OR VIDEOS
Table 4.12	BMRT4.12a	BSDMDOW1	MAT\DO WELL\NATURAL TALENT
	BMRT4.12b	BSDMDOW2	MAT\DO WELL\GOOD LUCK
	BMRT4.12c	BSDMDOW3	MAT\DO WELL\HARD WORK STUDYING
	BMRT4.12d	BSDMDOW4	MAT\DO WELL\MEMORIZE NOTES
Table 4.13	BMRT4.13a	BSDMJOB	MAT\DO WELL\TO GET DESIRED JOB
	BMRT4.13b	BSDMPRNT	MAT\DO WELL\TO PLEASE PARENTS
	BMRT4.13c	BSDMSCHL	MAT\DO WELL\TO ENTER DESIRED SCHOOL
Table 4.14	BMRT4.14	BSDMLIKE	MAT\LIKE MATHEMATICS
Table 5.2	BMRT5.2	BTDGAGE	GEN\AGE OF TEACHER
Table 5.3	BMRT5.3	BTDGTAUG	GEN\YEARS BEEN TEACHING
Table 5.4	BMRT5.4	BTDMTST	MAT\MATH TEACHING SCHEDULE TIME
Table 5.5	BMRT5.5	BTDMTIME	MAT\CLSS\LENGTH OF MATH CLASS
Table 5.6	BMRT5.6a	BTDGACT1	GEN\OUTSIDE SCHL\PREPARE TEST
	BMRT5.6b	BTDGACT2	GEN\OUTSIDE SCHL\READ STUDENT WORK
	BMRT5.6c	BTDGACT3	GEN\OUTSIDE SCHL\PLAN LESSONS
	BMRT5.6d	BTDGACT4	GEN\OUTSIDE SCHL\MEET STUDENTS
	BMRT5.6e	BTDGACT5	GEN\OUTSIDE SCHL\MEET PARENTS
	BMRT5.6f	BTDGACT6	GEN\OUTSIDE SCHL\PROFESSIONL READING
	BMRT5.6g	BTDGACT7	GEN\OUTSIDE SCHL\UPDATE STUD RECORDS
	BMRT5.6h	BTDGACT8	GEN\OUTSIDE SCHL\ADMINISTRATVE TASKS
Table 5.7	BMRT5.7	BTDGMEET	GEN\MEETING WITH OTHER TEACHERS
Table 5.8	BMRT5.8	BTDCSIZE	GEN\CLSS\NUMBER OF BOYS & GIRLS IN CLASS
Table 5.9	BMRT5.9a	BTDMSRC1	MAT\SOURCE\WHICH TOPIC TO TEACH
	BMRT5.9b	BTDMSRC2	MAT\SOURCE\HOW TO PRESENT A TOPIC
Table 5.14	BMRT5.14	BTDMCALU	MAT\FREQUENCY STUDENTS USE CALCS
Table 5.15	BMRT5.15b	BTDMCAL1	MAT\CALCS FOR CHECKING ANSWERS
	BMRT5.15c	BTDMCAL2	MAT\CALCS FOR TESTS AND EXAMS
	BMRT5.15d	BTDMCAL3	MAT\CALCS FOR ROUTINE COMPUTATIO
	BMRT5.15e	BTDMCAL4	MAT\CALCS FOR COMPLEX PROBLEMS
	BMRT5.15f	BTDMCAL5	MAT\CALCS FOR NUMBER CONCEPTS
	Table 5.17	BMRT5.17	BTDMASK4
Table 5.18	BMRT5.18	BSDMCOMP	MAT\USE COMPUTERS
Table 5.19	BMRT5.19	BTDMHWRK	MAT\AVERAGE TIME NEEDED FOR HOMEWK

\*The international table or figure reference location included for each derived variable is based on the general definitions described in Table 7.5 in the User Guide.

Note: One derived variable (BSDGPS) not reported in any international tables or figures is not included in the index.

**Table S4.3**  
**Index of Derived Variables Included in the International Report for Mathematics**  
**Population 2 (Continued 2)**

Report Table/Figure	Table/Figure Reference Location*	Derived Variable	Label
Table 5.21	BMRT5.21a		





**Table S4.4**  
**Index of Derived Variables Included in the International Report for Science**  
**Population 2 (Continued 2)**

Report Table/Figure	Table/Figure Reference Location*	Derived Variable	Label
Table 5.4	BSRT5.4	BTDSTST	MAT\MATH TEACHING SCHEDULE TIME
Table 5.5	BSRT5.5	BTDSTIME	SCI\CLSS\LENGTH OF MATH CLASS
Table 5.6	BSRT5.6a	BTDGACT1	GEN\OUTSIDE SCHL\PREPARE TEST
	BSRT5.6b	BTDGACT2	GEN\OUTSIDE SCHL\READ STUDENT WORK
	BSRT5.6c	BTDGACT3	GEN\OUTSIDE SCHL\PLAN LESSONS
	BSRT5.6d	BTDGACT4	GEN\OUTSIDE SCHL\MEET STUDENTS
	BSRT5.6e	BTDGACT5	GEN\OUTSIDE SCHL\MEET PARENTS
	BSRT5.6f	BTDGACT6	GEN\OUTSIDE SCHL\PROFESSIONL READING
	BSRT5.6g	BTDGACT7	GEN\OUTSIDE SCHL\UPDATE STUD RECORDS
	BSRT5.6h	BTDGACT8	GEN\OUTSIDE SCHL\ADMINISTRATVE TASKS
Table 5.7	BSRT5.7	BTDGMEET	GEN\MEETING WITH OTHER TEACHERS
Table 5.8	BSRT5.8	BTDCSIZE	GEN\CLSS\NUMBER OF BOYS & GIRLS IN CLASS
Table 5.9	BSRT5.9a	BTDSSRC1	SCI\SOURCE\WHICH TOPIC TO TEACH
	BSRT5.9b	BTDSSRC2	SCI\SOURCE\HOW TO PRESENT A TOPIC
Table 5.11	BSRT5.11a	BSDSEMO	SCI\TEACHER GIVERS DEMONSTRATION
	BSRT5.11b	BSDBDEMO	BIO\TEACHER GIVES DEMONSTRATION
	BSRT5.11c	BSDCEMO	CHE\TEACHER GIVES DEMONSTRATION
	BSRT5.11d	BSDEDEMO	EAR\TEACHER GIVES DEMONSTRATION
	BSRT5.11e	BSDPDEMO	PHY\TEACHER GIVES DEMONSTRATION
Table 5.12	BSRT5.12a	BSDSEXP	SCI\STUDENTS DO EXPERIMENTS IN CLASS
	BSRT5.12b	BSDBEXP	BIO\STUDENTS DO EXPERIMENTS IN CLASS
	BSRT5.12c	BSDCEXP	CHE\STUDENTS DO EXPERIMENTS IN CLASS
	BSRT5.12d	BSDEEXP	EAR\STUDENTS DO EXPERIMENTS IN CLASS
	BSRT5.12e	BSDPEXP	PHY\STUDENTS DO EXPERIMENTS IN CLASS
Table 5.13	BSRT5.13a	BSDSEVLF	SCI\SOLVE WITH EVERYDAY LIFE THINGS
	BSRT5.13b	BSDBEVLF	BIO\SOLVE WITH EVERYDAY LIFE THINGS
	BSRT5.13c	BSDCEVLF	CHE\SOLVE WITH EVERYDAY LIFE THINGS
	BSRT5.13d	BSDEEVLF	EAR\SOLVE WITH EVERYDAY LIFE THINGS
	BSRT5.13e	BSDPEVLF	PHY\SOLVE WITH EVERYDAY LIFE THINGS
Table 5.15	BSRT5.15	BTDSALU	SCI\FREQUENCY STUDENTS USE CALCS
Table 5.16	BSRT5.16b	BTDSAL1	SCI\CALCS FOR CHECKING ANSWERS
	BSRT5.16c	BTDSAL2	SCI\CALCS FOR TESTS AND EXAMS
	BSRT5.16d	BTDSAL3	SCI\CALCS FOR ROUTINE COMPUTATIO
	BSRT5.16e	BTDSAL4	SCI\CALCS FOR COMPLEX PROBLEMS
	BSRT5.16f	BTDSAL5	SCI\CALCS FOR NUMBER CONCEPTS
	Table 5.17	BSRT5.17	BTDSASK4
Table 5.18	BSRT5.18a	BSDSCOMP	SCI\USE COMPUTERS
	BSRT5.18b	BSDBCOMP	BIO\USE COMPUTERS
	BSRT5.18c	BSDCCOMP	CHE\USE COMPUTERS
	BSRT5.18d	BSDECOMP	EAR\USE COMPUTERS
	BSRT5.18e	BSDPCOMP	PHY\USE COMPUTERS

\*The international table or figure reference location included for each derived variable is based on the general definitions described in Table 7.5 in the User Guide.

Note: One derived variable (BSDGPS) not reported in any international tables or figures is not included in the index.



**Table S4.4**  
**Index of Derived Variables Included in the International Report for Science**  
**Population 2 (Continued 3)**

Report Table/Figure	Table/Figure Reference Location*	Derived Variable	Label
Table 5.19	BSRT5.19	BTDSHWRK	SCIAVERAGE TIME NEEDED FOR HOMEWK
Table 5.21	BSRT5.21a	BTDSWGT1	SCIASSMNT WEIGHT\STANDARD TESTS
	BSRT5.21b	BTDSWGT2	SCIASSMNT WEIGHT\REASONING TESTS
	BSRT5.21c	BTDSWGT3	SCIASSMNT WEIGHT\MULTIPLE CHOICE
	BSRT5.21d	BTDSWGT4	SCIASSMNT WEIGHT\HOMEWORK PERFORMNCE
	BSRT5.21e	BTDSWGT5	SCIASSMNT WEIGHT\PROJECT PERFORMNCE
	BSRT5.21f	BTDSWGT6	SCIASSMNT WEIGHT\OBSERVATION
	BSRT5.21g	BTDSWGT7	SCIASSMNT WEIGHT\RESPONSES IN CLASS
Table 5.22	BSRT5.22a	BTDGASS1	GEN\FREQUENCY\PROVIDE GRADES
	BSRT5.22b	BTDGASS2	GEN\FREQUENCY\PROVIDE FEEDBACK
	BSRT5.22c	BTDGASS3	GEN\FREQUENCY\DIAGNOSE PROBLEMS
	BSRT5.22d	BTDGASS4	GEN\FREQUENCY\REPORT TO PARENTS
	BSRT5.22e	BTDGASS5	GEN\FREQUENCY\ASSIGN DIFFERNT TRACKS
	BSRT5.22f	BTDGASS6	GEN\FREQUENCY\PLAN FUTURE LESSONS
Table 5.23	BSRT5.23a	BSDSTEST	SCI\HAVE A QUIZ OR TEST
	BSRT5.23b	BSDBTEST	BIO\HAVE A QUIZ OR TEST
	BSRT5.23c	BSDCTEST	CHE\HAVE A QUIZ OR TEST
	BSRT5.23d	BSDETEST	EAR\HAVE A QUIZ OR TEST
	BSRT5.23e	BSDPTEST	PHY\HAVE A QUIZ OR TEST

\*The international table or figure reference location included for each derived variable is based on the general definitions described in Table 7.5 in the User Guide.

Note: One derived variable (BSDGPS) not reported in any international tables or figures is not included in the index.



**Derived Variable Name:**

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**Derived Variable Name:** ASDGDAY2      **Label:** GEN\OUTSIDE SCHL\PLAY COMPUTER GAMES

**Description:** Students' reports on hours each day spent playing computer games

**Table / Figure Reference:** AMRT4.10b/ASRT4.10b

**Source Variable(s):** SQ1-6b                      (ASBGDAY2)

**Notes:** Hours based on SQ1-6b response categories recoded to numerical values:  
No time = 0; less than 1 hour = 0.5; 1-2 hours = 1.5; 3-4 hours = 3.5; more than 4 hours = 5.

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<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
Israel	D	Average computed based on modified options: 3-5 hours = 4; more than 5 hours = 7.

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**Derived Variable Name:** ASDGDAY5      **Label:** GEN\OUTSIDE SCHL\PLAYING SPORTS

**Description:** Students' reports on hours each day spent playing sports

**Table / Figure Reference:** AMRT4.10e/ASRT4.10e

**Source Variable(s):** SQ1-6e                      (ASBGDAY5)

**Notes:** Hours based on SQ1-6e response categories recoded to numerical values:  
No time = 0; less than 1 hour = 0.5; 1-2 hours = 1.5; 3-4 hours = 3.5; more than 4 hours = 5.

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<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
Israel	D	Average computed based on modified options: 3-5 hours = 4; more than 5 hours = 7.
Latvia	D	Average computed based on modified options: 3-5 hours = 4; more than 5 hours = 7.
Singapore	X	Not internationally comparable due to open-ended response format; data omitted from report variable but retained in original variable (SQ1-6e).

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**Derived Variable Name:** ASDGDAY6      **Label:** GEN\OUTSIDE SCHL\READING A BOOK

**Description:** Students' reports on hours each day spent reading a book for enjoyment

**Table / Figure Reference:** AMRT4.10f/ASRT4.10f

**Source Variable(s):** SQ1-6f                      (ASBGDAY6)

**Notes:** Hours based on SQ1-6f response categories recoded to numerical values:  
No time = 0; less than 1 hour = 0.5; 1-2 hours = 1.5; 3-4 hours = 3.5; more than 4 hours = 5.

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<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
Israel	D	Average computed based on modified options: 3-5 hours = 4; more than 5 hours = 7.
Latvia	D	Average computed based on modified options: 3-5 hours = 4; more than 5 hours = 7.
Singapore	X	Not internationally comparable due to open-ended response format; data omitted from report variable but retained in original variable (SQ1-6f).

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**Derived Variable Name:** ASDGDTV      **Label:** GEN\OUTSIDE SCHL\WATCH TV OR VIDEOS

**Description:** Students' reports on time spent on a normal school day watching television or videos - reporting categories

**Table / Figure Reference:** AMRT4.11/ASRT4.11

**Source Variable(s):** SQ1-6a                      (ASBGDAY1)

**Notes:** Coded into 3 collapsed categories based on students' responses to SQ1-6a:  
1 = <1 hour (No time or < 1 hour: option 1 or 2);  
3 = 1-2 hours (option 3);  
4 = 3-4 hours (option 4);  
5 = > 4 hours (option 5).

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<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
Israel	D	Modified response categories: 3 = 3-5 hours; 5 = More than 5 hours.
Latvia	D	Modified response categories: 3 = 3-5 hours; 5 = More than 5 hours.
Singapore	X	Not internationally comparable due to open-ended response format; data omitted from report variable but retained in original variable (SQ1-6a).

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**Derived Variable Name:** ASDGMATT      **Label:** GEN\OVERALL ATTITUDE\TOWARDS MATHEMATICS

**Description:** Students' overall attitude toward mathematics - index based on 3 variables

**Table / Figure Reference:** AMRT4.15/AMRF4.3

**Source Variable(s):** SQ1-19a;21a,b              (ASBMLIKE,ASBMENJY,ASBMBORE)

**Notes:**

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**Derived Variable Name:** ASDGPS      **Label:** GEN\NUMBER OF ITEMS AT STUDENT'S HOME

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**Description:** Students' reports of the total number of items in the home

**Table / Figure Reference:**

**Source Variable(s):** SQ1-11a-p                      (ASBGPS01- ASBGPS16)

**Notes:** Included as an indicator of socioeconomic status based on a set of nationally-defined variables related to possessions contained in students' homes. ASDGPS is an integer value computed as the total number of YES (1) responses to the set of questions regarding possessions in the home (SQ1-11a-p), with a maximum value of 16. In some countries, less than 16 items were included, so the maximum value is not comparable across countries. The possessions in SQ1-11a-d are comparable across countries (calculator, computer, study desk/table, dictionary). The nationally-defined possessions (SQ1-11e-p) asked in each country are listed in the national adaptation documentation in Supplement 3.

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<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
All		Not included in international reports.

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**Derived Variable Name:** ASDGPSA      **Label:** GEN\HOME\POSSESS ALL\COMPUTER\DESK\DICTI

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**Description:** Students' reports about having all of three educational aids in the home: dictionary, study desk/table, and computer

**Table / Figure Reference:** AMRT4.1a/ASRT4.1a

**Source Variable(s):** SQ1-11b,c,d                      ASBGPS02,ASBGPS03,ASBGPS04

**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 SQ1-11b,c,d are Yes (1);  
2 = No if any of SQ1-11b,c,d are No (2).  
Coded as missing if any of the three source variables are coded as missing.

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<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
Japan	X	Data not available for source variable(s).

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**Derived Variable Name:** ASDGSATT      **Label:** GEN\OVERALL ATTITUDE\TOWARDS SCIENCE

**Description:** Students' overall attitude toward science - index based on 3 variables

**Table / Figure Reference:** ASRT4.15/ASRF4.3

**Source Variable(s):** SQ1-19b;21d,e      (ASBSLIKE,ASBSENJY,ASBSBORE)

**Notes:** Index of overall attitude towards science based on the average response to three questions: How much do you like science (SQ1-19b); I enjoy learning science (SQ1-21d); and Science is boring (SQ1-21e). The ASDGSATT index variable is based on a 4-point Likert-type scale ranging from most negative to most positive. In computing averages, reverse-scale values were used for SQ1-19b and 21d. The index variable contains integer values based on the following rounding rules:

1 = Strongly Negative (1 - <1.5);

2 = Negative (1.5 - <2.5);

3 = Positive (2.5 - <3.5);

4 = Strongly Positive (3.5 - 4).

Students were coded as missing on the index variable only if all three of the source variables were missing.

---

<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
Scotland	X	Did not administer all items in index; omitted SQ1-21d,e.

---

---

**Derived Variable Name:**      **Label:** GEN\DAILY HOURS SPENT STUDYING MATH

**Description:** StudentsAM X;sp.36 s = y -1.math or532i(les;)g;,ew 249 k aftindschool6 TD [(D)5(escr)(StudenTable / Figure R18(sitiv)1

**Table / Figure Reference:** AMRT4.9b



---

**Derived Variable Name:** ASDMDOW2    **Label:** MAT\DO WELL\GOOD LUCK

**Description:** Students' reports about whether you need good luck to do well in mathematics at school

**Table / Figure Reference:** AMRT4.13b

**Source Variable(s):** SQ1-17b                      (ASBMDOW2)

**Notes:** Coded into 2 collapsed categories based on students' responses to SQ1-17b:  
1 = Yes (Strongly Agree or Agree - option 1 or 2 );  
2 = No (Disagree or Strongly Disagree - option 3 or 4).

---

<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
England	X	

---

---

**Derived Variable Name:** ASDMSTUD      **Label:** GEN\DAI\LY HOURS SPENT STUDYING MATH (CATEGORIE

**Description:** Students' reports about the amount of time spent studying math or doing math homework - reporting categories

**Table / Figure Reference:** AMRT4.9a

**Source Variable(s):** SQ1-6g                      (ASBMDAY7)

**Notes:** Coded into 3 collapsed categories based on students' responses to SQ1-6g:  
1 = No Time (option 1);  
2 = Less Than 1 Hour (option 2);  
3 = 1 Hour or More (1-2 hours, 3-4 hours, or more than 4 hours: option 3, 4 or 5).

---

<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
England	X	Data not available for source variable(s).
Singapore	X	Not internationally comparable due to open-ended response format; data omitted from report variable but retained in original variable (SQ1-6g).

---

---

**Derived Variable Name:** ASDSDAY8      **Label:** GEN\DAI\LY HOURS SPENT STUDYING SCIENCE

**Description:** Students' reports on hours each day spent studying science or doing science homework after school

**Table / Figure Reference:** ASRT4.9b

**Source Variable(s):** SQ1-6h                      (ASBSDAY8)

**Notes:** Hours based on SQ1-6h response categories recoded to numerical values:  
No time = 0; less than 1 hour = 0.5; 1-2 hours = 1.5; 3-4 hours = 3.5; more than 4 hours = 5.

---

<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
Israel	D	Average computed based on modified options: 3-5 hours = 4; more than 5 hours = 7.
Latvia	D	Average computed based on modified options: 3-5 hours = 4; more than 5 hours = 7.

---

---

**Derived Variable Name:** ASDSDOW1      **Label:** SC\DO WELL\NATURAL TALENT

**Description:** Students' reports about whether you need lots of natural talent/ability to do well in science at school

**Table / Figure Reference:** ASRT4.13a

**Source Variable(s):** SQ1-18a                      (ASBSDOW1)

**Notes:** Coded into 2 collapsed categories based on students' responses to SQ1-18a:  
1 = Yes (Strongly Agree or Agree - option 1 or 2 );  
2 = No (Disagree or Strongly Disagree - option 3 or 4).

---

<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
England	X	Data not available for source variable(s).
Scotland	X	Data not available for source variable(s).

---

**Derived Variable Name:** ASDSDOW2    **Label:** SC\DO WELL\GOOD LUCK

**Description:**

**Table / Figure Reference:** ASRT4.13b

---

**Derived Variable Name:** ASDSSTUD      **Label:** GEN\DAAILY HOURS SPENT STUDYING SCIENCE (CATEGO

**Description:** Students' reports about the amount of time spent studying science or doing science homework - reporting categories

**Table / Figure Reference:** ASRT4.9a

**Source Variable(s):** SQ1-6h                      (ASBSDAY8)

**Notes:** Coded into 3 collapsed categories based on students' responses to SQ1-6h:  
1 = No Time (option 1);  
2 = Less Than 1 Hour (option 2);  
3 = 1 Hour or More (1-2 hours, 3-4 hours, or more than 4 hours: option 3, 4 or 5).

---

<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
England	X	Data not available for source variable(s).
Singapore	X	Not internationally comparable due to open-ended response format; data omitted from report variable but retained in original variable (SQ1-6h).

---

# Section 2

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**Derived Variable Name:** ATDCSIZE      **Label:** GEN\CLSS\NUMBER OF BOYS & GIRLS IN CLASS

---

**Description:** Teachers' reports about the number of students in their class

**Table / Figure Reference:** AMRT5.7/ASRT5.9

**Source Variable(s):** TQ1-14/1-2      (ATBGBOY,ATBGGIRL)

**Notes:** Total number of students reported in four categories based on the sum of number of boys (TQ1-14/1) and number of girls (TQ1-14/2) reported by teachers in the open-ended questions:  
1 = 1-20;  
2 = 21-30;  
3 = 31-40;  
4 = >40.

---

<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
Czech Republic	D	Not asked of science-only teachers; data copied from math teacher record for matching classes.
Hong Kong	D	Not asked of science-only teachers; data copied from math teacher record for matching classes.
Singapore	D	Data obtained at ministry.

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---

**Derived Variable Name:** ATDGACT1      **Label:** GEN\OUTSIDE SCHL\PREPARE TEST

---

**Description:** Teachers' reports about hours per week spent preparing or grading student tests

**Table / Figure Reference:** AMRT5.5a/ASRT5.6a

**Source Variable(s):** TQ1-9a      (ATBGACT1)

**Notes:** Hours based on TQ1-9a response categories recoded to numerical values:  
None = 0; Less Than 1 Hour = .5; 1-2 Hours = 1.5; 3-4 Hours = 3.5; and More Than 4 Hours = 5.

---

<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
All		Data considered internationally comparable for reporting.

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---

**Derived Variable Name:** ATDGACT2      **Label:** GEN\OUTSIDE SCHL\READ STUDENT WORK

---

**Description:** Teachers' reports about hours per week spent reading and grading student work

**Table / Figure Reference:** AMRT5.5b/ASRT5.6b

**Source Variable(s):** TQ1-9b      (ATBGACT2)

**Notes:** Hours based on TQ1-9b response categories recoded to numerical values:  
None = 0; Less Than 1 Hour = .5; 1-2 Hours = 1.5; 3-4 Hours = 3.5; and More Than 4 Hours = 5.

---

<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
All		Data considered internationally comparable for reporting.

---

**Derived Variable Name:** ATDFACT3      **Label:** GEN\OUTSIDE SCHL\PLAN LESSONS

**Description:** Teachers' reports about hours per week spent planning lessons by self

**Table / Figure Reference:** AMRT5.5c/ASRT5.6c

**Source Variable(s):** TQ1-9c                      (ATBFACT3)

**Notes:** Hours based on TQ1-9c response categories recoded to numerical values:  
None = 0; Less Than 1 Hour = .5; 1-2 Hours = 1.5; 3-4 Hours = 3.5; and More Than 4 Hours = 5.

---

**Derived Variable Name:** ATDGA6T6      **Label:** GEN\OUTSIDE SCHL\PROFESSIONL READING

**Description:** Teachers' reports about hours per week spent on professional reading and development

**Table / Figure Reference:** AMRT5.5f/ASRT5.6f

**Source Variable(s):** TQ1-9f                      (ATBGA6T6)

**Notes:** Hours based on TQ1-9f response categories recoded to numerical values:  
None = 0; Less Than 1 Hour = .5; 1-2 Hours = 1.5; 3-4 Hours = 3.5; and More Than 4 Hours = 5.

---

<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
All		Data considered internationally comparable for reporting.

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**Derived Variable Name:** ATDGA6T7      **Label:** GEN\OUTSIDE SCHL\UPDATE STUD RECORDS

**Description:** Teachers' reports about hours per week spent on keeping students' records

**Table / Figure Reference:** AMRT5.5g/ASRT5.6g

**Source Variable(s):** TQ1-9g                      (ATBGA6T7)

**Notes:** Hours based on TQ1-9g response categories recoded to numerical values:  
None = 0; Less Than 1 Hour = .5; 1-2 Hours = 1.5; 3-4 Hours = 3.5; and More Than 4 Hours = 5.

---

<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
All		Data considered internationally comparable for reporting.

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**Derived Variable Name:** ATDGA6T8      **Label:** GEN\OUTSIDE SCHL\ADMINISTRATVE TASKS

**Description:** Teachers' reports about hours per week spent on administrative tasks

**Table / Figure Reference:** AMRT5.5h/ASRT5.6h

**Source Variable(s):** TQ1-9h                      (ATBGA6T8)

**Notes:** Hours based on TQ1-9h response categories recoded to numerical values:  
None = 0; Less Than 1 Hour = .5; 1-2 Hours = 1.5; 3-4 Hours = 3.5; and More Than 4 Hours = 5.

---

<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
All		Data considered internationally comparable for reporting.

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**Derived Variable Name:** ATDGAGE      **Label:** GEN\AGE OF TEACHER**Description:** Teachers' age**Table / Figure Reference:** AMRT5.2a/ASRT5.2a**Source Variable(s):** TQ1-1                      (ATBGAGE)**Notes:** Teachers' age reported in 4 collapsed categories based on teachers' responses to TQ1-1:  
1 = 29 or Younger (Under 25 or 25-29: option 1 or 2)  
2 = 30-39 (option 3)  
3 = 40-49 (option 4)  
4 = 50 or Older (50-59 or 60 or more: option 5 or 6)

---

<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
All		Data considered internationally comparable for reporting.

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**Derived Variable Name:** ATDGAGR4      **Label:** GEN\PRACTICE TO OVERCOME DIFFICULTY**Description:** Teachers' reports about the extent to which they agree that if students are having difficulty an effective approach is to give them more practice by themselves during class**Table / Figure Reference:** AMRF5.1c**Source Variable(s):** TQ1-12d                      (ATBGAGR4)**Notes:** Coded into 2 collapsed categories based on teachers' responses to TQ1-12d:  
1 = Agree or Strongly Agree (option 3 or 4);  
2 = Disagree or Strongly Disagree (option 2 or 1).

---

<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
England	X	Data not available for source variable(s).
Hungary	X	Data not available for source variable(s).
Scotland	X	Data not available for source variable(s).

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---

**Derived Variable Name:** ATDGCAL1      **Label:** GEN\CALCS FOR CHECKING ANSWERS**Description:** Teachers' reports about how often students use calculators to check answers in class**Table / Figure Reference:** AMRT5.15b**Source Variable(s):** TQ1-22a                      (ATBGCAL1)**Notes:** Coded into 2 collapsed categories based on teachers' responses to TQ1-22a:  
1 = At Least Once or Twice a Week (Almost Every Day or Once/Twice a Week: option 1 or 2);  
2 = Less Than Once a Week (Once/Twice a Month or Never/Hardly Ever: option 3 or 4).

---

<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
Scotland	X	Data not available for source variable(s).

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**Derived Variable Name:** ATDGCAL2      **Label:** GEN\CALCS FOR TESTS AND EXAMS

**Description:** Teachers' reports about how often students use calculators during tests and exams in class

**Table / Figure Reference:** AMRT5.15c

**Source Variable(s):** TQ1-22b                      (ATBGCAL2)

**Notes:** Coded into 2 collapsed categories based on teachers' responses to TQ1-22b:  
1 = At Least Once or Twice a Week (Almost Every Day or Once/Twice a Week: option 1 or 2);  
2 = Less Than Once a Week (Once/Twice a Month or Never/Hardly Ever: option 3 or 4).

---

<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
Scotland	X	Data not available for source variable(s).

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---

**Derived Variable Name:** ATDGCAL3      **Label:** GEN\CALCS FOR ROUTINE COMPUTATIONS

**Description:** Teachers' reports about how often students use calculators to do routine computation in class

**Table / Figure Reference:** AMRT5.15d

**Source Variable(s):** TQ1-22c                      (ATBGCAL3)

**Notes:** Coded into 2 collapsed categories based on teachers' responses to TQ1-22c:  
1 = At Least Once or Twice a Week (Almost Every Day or Once/Twice a Week: option 1 or 2);  
2 = Less Than Once a Week (Once/Twice a Month or Never/Hardly Ever: option 3 or 4).

---

<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
Scotland	X	Data not available for source variable(s).

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**Derived Variable Name:** ATDGCAL4      **Label:** GEN\CALCS FOR COMPLEX PROBLEMS

**Description:** Teachers' reports about how often students use calculators to solve complex problems in class

**Table / Figure Reference:**

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**Derived Variable Name:** ATDGCAL5      **Label:** GEN\CALCS FOR NUMBER CONCEPTS

---

**Description:** Teachers' reports about how often students use calculators to explore number concepts in class

**Table / Figure Reference:** AMRT5.15f

**Source Variable(s):** TQ1-22e                      (ATBGCAL5)

**Notes:** Coded into 2 collapsed categories based on teachers' responses to TQ1-22e:  
1 = At Least Once or Twice a Week (Almost Every Day or Once/Twice a Week: option 1 or 2);  
2 = Less Than Once a Week (Once/Twice a Month or Never/Hardly Ever: option 3 or 4).

---

<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
Scotland	X	Data not available for source variable(s).

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**Derived Variable Name:** ATDGFAM3      **Label:** MAT\REGIONAL CURRICULUM GUIDE

---

**Description:** Teachers' reports about their degree of familiarity with their regional curriculum guides

**Table / Figure Reference:** AMRT5.8b/ASRT5.8b

**Source Variable(s):** TQ1-13c                      (ATBGFAM3)

**Notes:** Coded into 3 collapsed categories based on teachers' responses to TQ1-13c:  
1 = Not familiar or No Such Document (option 1 or 2);  
2 = Fairly Familiar (option 3);  
3 = Very Familiar (option 4).

---

<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
Australia	D	Includes Math State Curriculum Guide.
Canada	D	Combines provincial curriculum guides for math and science.
Cyprus	X	Data not available for source variable(s).
England	X	Data not available for source variable(s).
Greece	X	Data not available for source variable(s).
Hong Kong	X	Data not available for source variable(s).
Hungary	X	Data not available for source variable(s).
Iceland	X	Data not available for source variable(s).
Iran	X	Data not available for source variable(s).
Ireland	X	Data not available for source variable(s).
Kuwait	X	Data not available for source variable(s).
Netherlands	X	Data not available for source variable(s).
Portugal	X	Data not available for source variable(s).
Scotland	X	Data not available for source variable(s).
Singapore	X	Data not available for source variable(s).
United States	D	Includes State Curriculum Guide.

---

**Derived Variable Name:** ATDGLM01      **Label:** GEN\CLSS\DIFFERENT ACADEMIC ABILITY

**Description:** Teachers' reports about the extent to which students with different academic abilities limit how they teach their class

**Table / Figure Reference:** AMRF5.4a/ASRF5.2a

**Source Variable(s):** TQ1-20a      (ATBGLM01)

**Notes:**

**Derived Variable Name:** ATDGLM05

**Label:** GEN\CLSS\DISRUPTIVE STUDENTS

**Description:**



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**Derived Variable Name:** ATDGMEET      **Label:** GEN\MEETINGS WITH OTHER TEACHERS

---

**Description:** Teachers' reports about how often they meet with other teachers in their subject area to discuss curriculum

**Table / Figure Reference:** AMRT5.6/ASRT5.7

**Source Variable(s):** TQ1-10                      (ATBGMEET)

**Notes:** Coded into 4 collapsed frequency categories based on teachers' responses to TQ1-10:  
1 = Never or Once/ Twice a Year (option 1 or 2)  
2 = Monthly or Every Other Month (option 3 or 4)  
3 = Once, Twice or Three Times a Week (option 5 or 6)  
4 = Almost Every Day (option 7)

---

<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
Australia	D	Once/Month also includes Once/Fortnight.
Singapore	D	Every Other Month changed to Once/Term.

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**Derived Variable Name:** ATDGTAUG      **Label:** GEN\YEARS BEEN TEACHING

---

**Description:** Teachers' reports about years of teaching experience

**Table / Figure Reference:** AMRT5.3/ASRT5.3

**Source Variable(s):** TQ1-7                      (ATBGTAUG)

**Notes:** Years of teaching experience reported in 4 categories based on teachers' responses to open-ended question (TQ1-7):  
1 = <5 years;  
2 = 6-10 years;  
3 = 11-20 years;  
4 = >20 years.

---

<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
All		Data considered internationally comparable for reporting.

---

---

**Derived Variable Name:** ATDMAGR2      **Label:** MAT\FORMAL REPRESENTATION OF WORLD

---

**Description:** Teachers' reports about the extent to which they agree that mathematics is primarily a formal way of representing the real world

**Table / Figure Reference:** AMRF5.1a

**Source Variable(s):** TQ1-12b                      (ATBMAGR2)

**Notes:** Coded into 2 collapsed categories based on teachers' responses to TQ1-12b:  
1 = Agree or Strongly Agree (option 3 or 4);  
2 = Disagree or Strongly Disagree (option 2 or 1).

---

<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
England	X	Data not available for source variable(s).
Scotland	X	Data not available for source variable(s).

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---

**Derived Variable Name:** ATDMAGR5      **Label:** MAT\NATURAL TALENT FOR MATH

---

**Description:** Teachers' reports about the extent to which they agree that some students have a natural talent for mathematics and others do not

**Table / Figure Reference:** AMRF5.1b

**Source Variable(s):** TQ1-12e                      (ATBMAGR5)

**Notes:** Coded into 2 collapsed categories based on teachers' responses to TQ1-12e:  
1 = Agree or Strongly Agree (option 3 or 4);  
2 = Disagree or Strongly Disagree (option 2 or 1).

---

<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
England	X	Data not available for source variable(s).
Scotland	X	Data not available for source variable(s).

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**Derived Variable Name:** ATDMAGR6      **Label:** MAT\USE MORE THAN 1 REPRESENTATION

---

**Description:** Teachers' reports about the extent to which they agree that more than one representation should be used in teaching a mathematics topic

**Table / Figure Reference:** AMRF5.1d

**Source Variable(s):** TQ1-12f                      (ATBMAGR6)

**Notes:** Coded into 2 collapsed categories based on teachers' responses to TQ1-12f:  
1 = Agree or Strongly Agree (option 3 or 4);  
2 = Disagree or Strongly Disagree (option 2 or 1).

---

<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
England	X	Data not available for source variable(s).
Scotland	X	Data not available for source variable(s).

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**Derived Variable Name:** ATDMASK4      **Label:**

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**Derived Variable Name:** ATDMFAM1      **Label:** MAT\NATIONAL CURRICULUM GUIDE

---

**Description:** Teachers' reports about their degree of familiarity with their national curriculum guide for mathematics

**Table / Figure Reference:** AMRT5.8a

**Source Variable(s):** TQ1-13a                      (ATBMFAM1)

**Notes:** Coded into 3 collapsed categories based on teachers' responses to TQ1-13a:  
1 = Not familiar or No Such Document (option 1 or 2);  
2 = Fairly Familiar (option 3);  
3 = Very Familiar (option 4).

---

<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
Canada	X	Data not available for source variable(s).
England	X	Data not available for source variable(s).
Ireland	D	Curriculum Book 1 and 2 includes math and science; same data in ATDSFAM2.
Scotland	X	Data not available for source variable(s).
United States	X	Data not available for source variable(s).

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---

**Derived Variable Name:** ATDMHWRK      **Label:** MAT\AVERAGE TIME NEEDED FOR HOMEWK

---

**Description:** Teachers' reports about the amount of mathematics homework assigned

**Table / Figure Reference:** AMRT5.19

**Source Variable(s):** TQ1-31;32                      (ATBMHMW2,ATBMHWT2)

**Notes:** Derived from teachers' responses to two questions regarding how often mathematics homework is assigned (TQ1-31) and how many minutes of mathematics homework is assigned (TQ1-32). Coded into 7 categories of homework amount/frequency:  
1 = No Homework (TQ1-32 = 1);  
2 = Assign 30 minutes or less/less than once a week (TQ1-31 = 2 and TQ1-32 = 2 or 3);  
3 = Assign more than 30 minutes/less than once a week (TQ1-31 = 2 and TQ1-32 = 4, 5 or 6);  
4 = Assign 30 minutes or less/once or twice a week (TQ1-31 = 3 and TQ1-32 = 2 or 3);  
5 = Assign more than 30 minutes/once or twice a week (TQ1-31 = 3 and TQ1-32 = 4, 5 or 6);  
6 = Assign 30 minutes or less/three times a week or more (TQ1-31 = 4 or 5 and TQ1-32 = 2 or 3);  
7 = Assign more than 30 minutes/three times a week or more (TQ1-31 = 4 or 5 and TQ1-32 = 4, 5 or 6).  
ATDMHWRK is coded as missing if either of the source variables is missing.

---

<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
England	X	Data not available for source variable(s).

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---

**Derived Variable Name:** ATDMIMP1      **Label:** MAT\GD\IMPT\REMEMBER FORMULAS

**Description:** Teachers' reports about how important it is for students to remember formulas and procedures to be good at mathematics at school

**Table / Figure Reference:** AMRF5.2a

**Source Variable(s):** TQ1-11a      (ATBMIMP1)

**Notes:** Coded into 2 collapsed categories based on teachers' responses to TQ1-11a:  
1 = Very Important (option 3);  
2 = Somewhat/Not Important (option 2 or 1).

---

<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
England	X	1srrre f* 74.7 (5 TD 0n4Ro 74.7(X)-4217(1srrre f* 74.7 (5 TD 0n4vailce:)]ft)-9(/)-)1315(c)-ur-11(es(ot) va(e).0399 11(e

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**Derived Variable Name:** ATDMIMP6      **Label:** MAT\GD\IMPT\SUPPORT SOLUTIONS

**Description:** Teachers' reports about how important it is for students to be able to provide reasons to support their solutions to be good at mathematics at school

**Table / Figure Reference:** AMRF5.2d

**Source Variable(s):** TQ1-11f      (ATBMIMP6)

**Notes:**

**Derived Variable Name:** ATDMLES3

**Label:** MAT\WORK TOGETHER\TEACHER TEACHES

**Description:**

---

**Derived Variable Name:** ATDMLES6      **Label:** MAT\WORK IN GROUPS\ASSISTANCE

**Description:** Teachers' reports about how often students work in pairs or small groups with assistance from the teacher in math lessons

**Table / Figure Reference:** AMRF5.5e

**Source Variable(s):** TQ1-30f      (ATBMLES6)

**Notes:** Coded into 2 collapsed categories based on teachers' responses to TQ1-30f:  
1 = Never or Some Lessons (option 1 or 2);  
2 = Most or Every Lesson (option 3 or 4).

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<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
All		Data considered internationally comparable for reporting.

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---

**Derived Variable Name:** ATDMSRC1      **Label:** MAT\SOURCE\WHICH TOPIC TO TEACH

**Description:** Teachers' reports about their main source of written information when deciding which topics to teach in their mathematics lessons

**Table / Figure Reference:** AMRT5.9a

**Source Variable(s):** TQ1-24a      (ATBMSRC1)

**Notes:** Coded into 3 collapsed categories based on teachers' responses to TQ1-24a:  
1 = Curriculum Guides (School Curriculum Guide or National/Regional Curriculum Guide - option 4 or 5);  
2 = Textbook (Other Resource Books, Student Edition of Textbook, or Teacher Edition of Textbook - Option 1, 2 or 3);  
3 = Examination Specifications (National/Regional Examination Specifications - option 6).

---

<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
Australia	D	Exam Specifications Not Included.
Canada	X	Data not available for source variable(s).
Czech Republic	D	Exam Specifications Not Included.
England	D	Option 2 combines Subject Association Materials with Other Resource Materials and Textbooks; Exam Specifications Not Included.
Greece	D	Exam Specifications Not Included.
Ireland	D	Exam Specifications Not Included.
Kuwait	X	Only included Textbooks and Other Resource Materials.
Netherlands	D	Exam Specifications Not Included.
New Zealand	D	Exam Specifications Not Included.
Norway	D	Exam Specifications Not Included.
Portugal	D	Exam Specifications Not Included.
Scotland	D	Exam Specifications Not Included.

---

**Derived Variable Name:** ATDMSRC2      **Label:**

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**Derived Variable Name:** ATDSFAM2      **Label:** SCINATIONAL CURRICULUM GUIDE

---

**Description:** Teachers' reports about their degree of familiarity with their national curriculum guide for science

**Table / Figure Reference:** ASRT5.8a

**Source Variable(s):** TQ1-13b                      (ATBSFAM2)

**Notes:** Coded into 3 collapsed categories based on teachers' responses to TQ1-13b:  
1 = Not familiar or No Such Document (option 1 or 2);  
2 = Fairly Familiar (option 3);  
3 = Very Familiar (option 4).

---

<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
Austria	X	Data not available for source variable(s).
Canada	X	Data not available for source variable(s).
England	X	Data not available for source variable(s).
Hong Kong	X	Not asked of science teachers; small sample of math/science teachers not reported.
Hungary	X	Data not available for source variable(s).
Ireland	D	Curriculum Book 1 and 2 includes math and science; same data in ATDMFAM1.
Scotland	X	Data not available for source variable(s).
United States	X	Data not available for source variable(s).

---

---

**Derived Variable Name:** ATDSLES1      **Label:** SCIINDIVIDUAL WORK/NO ASSISTANCE

---

**Description:** Teachers' reports about how often students work individually without assistance from the teacher in science lessons

**Table / Figure Reference:** ASRF5.3d

**Source Variable(s):** TQ1-36a                      (ATBSLES1)

**Notes:** Coded into 2 collapsed categories based on teachers' responses to TQ1-36a:  
1 = Never or Some Lessons (option 1 or 2);  
2 = Most or Every Lesson (option 3 or 4).

---

<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
All		Data considered internationally comparable for reporting.

---



**Derived Variable Name:**



**Derived Variable Name:** ATDSTIME      **Label:** SCISCIENCE TIME PER WEEK (CATEGORIES)

**Description:** Teachers' reports about the number of hours science is taught weekly - reporting categories

**Table / Figure Reference:** ASRT5.:A Figure Reference:

# Section 3





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**Derived Variable Name:** BSDBEXPR **Label:** BIOSTUDENTS DO EXPERIMENTS IN CLASS

---

**Description:** Students' reports on frequency of doing an experiment or practical investigation in biology class

**Table / Figure Reference:** BSRT5.12b

**Source Variable(s):** SQ2S-31p (BSBBEXPR)

**Notes:** Coded into 3 collapsed categories based on students' responses to SQ2S-31p:  
1 = Pretty Often or Almost Always (option 1 or 2);  
3 = Once in a While (option 3);  
4 = Never (option 4).  
Only computed for students in countries where the SQ2(s) version of the questionnaire was administered; coded as not administered if SQ2 form was used.

---

<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
Belgium (Fr)	D	Asked both Integrated Science and Biology/Physics questions. Integrated science students coded as Not Administered.
France	D	Reported data are for students taking Biology/Geology classes.
Greece	X	Deleted small sample of Biology students in upper-grade.
Portugal	D	Reported data are for students taking Natural Science classes.

---

---

**Derived Variable Name:** BSDBGOOD **Label:** BIOUSUALLY DO WELL IN BIOLOGY

---

**Description:** Students' self-perceptions about usually doing well in biological science

**Table / Figure Reference:** BSRT4.11b/BSRF4.2b

**Source Variable(s):** SQ2S-17b (BSBBGOOD)

**Notes:** Coded into 3 collapsed categories based on students' responses to SQ2S-17b:  
1 = Agree or Strongly Agree (option 1 or 2);  
3 = Disagree (option 3);  
4 = Strongly Disagree (option 4).  
Only computed for students in countries where the SQ2(s) version of the questionnaire was administered; coded as not administered if SQ2 form was used.

---

<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
Belgium (Fr)	X	Asked integrated science question; data reported in BSDSGOOD.
France	D	Reported data are for students taking Biology/Geology classes.
Greece	X	Asked integrated science question; data for upper-grade students reported in Physical Science (BSDPGOOD).

---

---

**Derived Variable Name:** BSDBJOB      **Label:** BIO\DO WELL\TO GET DESIRED JOB

---

**Description:** Students' perceptions about the need to do well in biology to get their desired job

**Table / Figure Reference:** BSRT4.13b

**Source Variable(s):** SQ2S-30a                      (BSBBJOB)

**Notes:** Coded into 3 collapsed categories based on students' responses to SQ2S-30a:  
1 = Agree or Strongly Agree (option 1 or 2);  
3 = Disagree (option 3);  
4 = Strongly Disagree (option 4).  
Only computed for students in countries where the SQ2(s) version of the questionnaire was administered; coded as not administered if SQ2 form was used.

---

<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
Belgium (Fr)	D	Asked both Integrated Science and Biology/Physics questions. Integrated science students coded as Not Administered.
France	D	Reported data are for students taking Biology/Geology classes.
Greece	X	Deleted small sample of Biology students in upper-grade.
Portugal	D	Reported data are for students taking Natural Science classes.

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**Derived Variable Name:** BSDBLIKE      **Label:** BIO\LIKE BIOLOGICAL SCIENCE

---

**Description:** Students' reports about liking biological science

**Table / Figure Reference:** BSRT4.16b/BSRF4.3b

**Source Variable(s):** SQ2S-21b                      (BSBBLIKE)

**Notes:** Coded into 3 collapsed categories based on students' responses to SQ2S-21b:  
1 = Dislike a Lot (option 1);  
2 = Dislike (option 2);  
3 = Like or Like A Lot (option 3 or 4).  
Only computed for students in countries where the SQ2(s) version of the questionnaire was administered; coded as not administered if SQ2 form was used.

---

<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
Belgium (Fr)	X	Asked integrated science question; data reported in BSDSLIKE.
France	D	Reported data are for students taking Biology/Geology classes.
Greece	X	Asked integrated science question; data for upper-grade students reported in Physical Science (BSDPLIKE).
Portugal	D	Reported data are for students taking Natural Science classes.

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**Derived Variable Name:** BSDBPRNT      **Label:** BIO\DO WELL\TO PLEASE PARENTS

---

**Description:** Students' perceptions about the need to do well in biology to please their parents

**Table / Figure Reference:** BSRT4.15b

**Source Variable(s):** SQ2S-30b                      (BSBBPRNT)

**Notes:** Coded into 3 collapsed categories based on students' responses to SQ2S-30b:  
1 = Agree or Strongly Agree (option 1 or 2);  
3 = Disagree (option 3);  
4 = Strongly Disagree (option 4).  
Only computed for students in countries where the SQ2(s) version of the questionnaire was administered; coded as not administered if SQ2 form was used.

---

<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
Belgium (Fr)	D	Asked both Integrated Science and Biology/Physics questions. Integrated science students coded as Not Administered.
France	D	Reported data are for students taking Biology/Geology classes.
Greece	X	Deleted small sample of Biology students in upper-grade.
Portugal	D	Reported data are for students taking Natural Science classes.

---

---

**Derived Variable Name:** BSDBSCHL      **Label:** BIO\DO WELL\TO ENTER DESIRED SCHOOL

---

**Description:** Students' perceptions about the need to do well in biology to get into their preferred university or secondary school

**Table / Figure Reference:** BSRT4.14b

**Source Variable(s):** SQ2S-30c                      (BSBBSCHL)

**Notes:** Coded into 3 collapsed categories based on students' responses to SQ2S-30c:  
1 = Agree or Strongly Agree (option 1 or 2);  
3 = Disagree (option 3);  
4 = Strongly Disagree (option 4).  
Only computed for students in countries where the SQ2(s) version of the questionnaire was administered; coded as not administered if SQ2 form was used.



---

**Derived Variable Name:** BSDCDEMO    **Label:** CHE\TEACHER GIVES DEMONSTRATION

**Description:** Students' reports on frequency of teacher giving demonstration of an experiment in chemistry class

**Table / Figure Reference:** BSRT5.11c

**Source Variable(s):** SQ2S-35o                      (BSBCDEMO)

**Notes:** Coded into 3 collapsed categories based on students' responses to SQ2S-35o:

1 = Pretty Often or Almost Always (option 1 or 2);

3 = Once in a While (option 3);

4 = Never (option 4).

Only computed for students in countries where the SQ2(s) version of the questionnaire was administered; coded as not administered if SQ2 form was used.

---

<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
Belgium (Fl)	X	Deleted chemistry data; small sample size.
Belgium (Fr)	X	Data not available for source variable(s).
Denmark	X	Chemistry not asked. Physics/Chemistry reported in Physics (BSDPDEMO).
France	X	Chemistry not asked; Physics/Chemistry reported in Physics (BSDPDEMO).
Netherlands	X	Deleted chemistry data; small sample size. Physics/Chemistry reported in Physics (BSDPDEMO).
Portugal	X	Data not available for source variable(s).

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**Derived Variable Name:** BSDCEVLF

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**Derived Variable Name:** BSDCEXP

**Derived Variable Name:** BSDCPRNT      **Label:** CHE\DO WELL\TO PLEASE PARENTS

**Description:** Students' perceptions about the need to do well in chemistry to please their parents

**Table / Figure Reference:** BSRT4.15c

**Source Variable(s):** SQ2S-34b                      (BSBCPRNT)

**Notes:** Coded into 3 collapsed categories based on students' responses to SQ2S-34b:  
1 = Agree or Strongly Agree (option 1 or 2);  
3 = Disagree (option 3);  
4 = Strongly Disagree (option 4).  
Only computed for students in countries where the SQ2(s) version of the questionnaire was administered; coded as not administered if SQ2 form was used.

**Derived Variable Name:**

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**Derived Variable Name:** BSDEDEMO    **Label:** EAR\TEACHER GIVES DEMONSTRATION

**Description:** Students' reports on frequency of teacher giving demonstration of an experiment in earth science class

**Table / Figure Reference:** BSRT5.11d

**Source Variable(s):** SQ2S-39o                      (BSBEDEMO)

**Notes:** Coded into 3 collapsed categories based on students' responses to SQ2S-39o:  
1 = Pretty Often or Almost Always (option 1 or 2);  
3 = Once in a While (option 3);  
4 = Never (option 4).  
Only computed for students in countries where the SQ2(s) version of the questionnaire was administered; coded as not administered if SQ2 form was used.

---

<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
Belgium (Fr)	X	Data not available for source variable(s).

---

**Derived Variable Name:** BSDEEXPR    **Label:**



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**Derived Variable Name:** BSDEJOB      **Label:** EAR\DO WELL\TO GET DESIRED JOB

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**Description:** Students' perceptions about the need to do well in earth science to get their desired job

**Table / Figure Reference:** BSRT4.13d

**Source Variable(s):** SQ2S-38a      (BSBEJOB)

**Notes:** Coded into 3 collapsed categories based on students' responses to SQ2S-38a:  
1 = Agree or Strongly Agree (option 1 or 2);  
3 = Disagree (option 3);  
4 = Strongly Disagree (option 4).  
Only computed for students in countries where the SQ2(s) version of the questionnaire was administered; coded as not administered if SQ2 form was used.

---

<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
Belgium (Fr)	X	Data not available for source variable(s).
France	X	Earth Science not asked; Biology/Geology reported in Biology (BSDBJOB).
Germany	X	Data not available for source variable(s).
Latvia	X	Data not available for source variable(s).
Portugal	X	Data not available for source variable(s).
Slovenia	X	Data not available for source variable(s).

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**Derived Variable Name:** BSDELIKE      **Label:** EAR\LIKE EARTH SCIENCE

---

**Description:** Students' reports about liking earth science

**Table / Figure Reference:** BSRT4.16c/BSRF4.3c

**Source Variable(s):** SQ2S-21c      (BSBELIKE)

**Notes:** Coded into 3 collapsed categories based on students' responses to SQ2S-21c:  
1 = Dislike a Lot (option 1);  
2 = Dislike (option 2);  
3 = Like or Like A Lot (option 3 or 4).  
Only computed for students in countries where the SQ2(s) version of the questionnaire was administered; coded as not administered if SQ2 form was used.

---

<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
Belgium (Fr)	X	Asked integrated science question; data reported in BSDSLIKE.
France	X	Earth Science not asked; Biology/Geology reported in Biology (BSDBLIKE).
Greece	X	Asked integrated science question; data for upper-grade students reported in Physical Science (BSDPLIKE).
Latvia	X	Data not available for source variable(s).
Portugal	X	Data not available for source variable(s).
Slovenia	X	Data not available for source variable(s).

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---

**Derived Variable Name:** BSDEPRNT      **Label:** EAR\DO WELL\TO PLEASE PARENTS

---

**Description:** Students' perceptions about the need to do well in earth science to please their parents

**Table / Figure Reference:** BSRT4.15d

**Source Variable(s):** SQ2S-38b                      (BSBEPRNT)

**Notes:** Coded into 3 collapsed categories based on students' responses to SQ2S-38b:  
1 = Agree or Strongly Agree (option 1 or 2);  
3 = Disagree (option 3);  
4 = Strongly Disagree (option 4).  
Only computed for students in countries where the SQ2(s) version of the questionnaire was administered; coded as not administered if SQ2 form was used.

---

<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
Belgium (Fr)	X	Data not available for source variable(s).
France	X	Earth Science not asked; Biology/Geology reported in Biology (BSDBPRNT).
Germany	X	Data not available for source variable(s).
Latvia	X	Data not available for source variable(s).
Portugal	X	Data not available for source variable(s).
Slovenia	X	Data not available for source variable(s).

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**Derived Variable Name:** BSDESCHL      **Label:** EAR\DO WELL\TO ENTER DESIRED SCHOOL

---

**Description:** Students' perceptions about the need to do well in earth science to get into their preferred university or secondary school

**Table / Figure Reference:** BSRT4.14d

**Source Variable(s):** SQ2S-38c                      (BSBESCHL)

**Notes:** Coded into 3 collapsed categories based on students' responses to SQ2S-38c:  
1 = Agree or Strongly Agree (option 1 or 2);  
3 = Disagree (option 3);  
4 = Strongly Disagree (option 4).  
Only computed for students in countries where the SQ2(s) version of the questionnaire was administered; coded as not administered if SQ2 form was used.

---

<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
Belgium (Fr)	X	Data not available for source variable(s).
France	X	Earth Science not asked; Biology/Geology reported in Biology (BSDBSCHL).
Germany	X	Data not available for source variable(s).
Latvia	X	Data not available for source variable(s).
Portugal	X	Data not available for source variable(s).
Slovenia	X	Data not available for source variable(s).

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**Derived Variable Name:** BSBDETEST      **Label:** EAR\HAVE A QUIZ OR TEST

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**Description:** Students' reports on frequency of having a quiz or test in earth science class

**Table / Figure Reference:** BSRT5.23d

**Source Variable(s):** SQ2S-39c                      (BSBETEST)

**Notes:** Coded into 3 collapsed categories based on students' responses to SQ2S-39c:  
1 = Pretty Often or Almost Always (option 1 or 2);  
2 = Once in a While (option 3);  
3 = Never (option 4).  
Only computed for students in countries where the SQ2(s) version of the questionnaire was administered; coded as not administered if SQ2 form was used.

---

<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
Belgium (Fr)	X	Data not available for source variable(s).
France	X	Earth Science not asked; Biology/Geology reported in Biology (BSDBTEST).
Germany	X	Data not available for source variable(s).
Latvia	X	Data not available for source variable(s).
Portugal	X	Data not available for source variable(s).
Slovenia	X	Data not available for source variable(s).

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---

**Derived Variable Name:** BSDGDAY1      **Label:** GEN\OUTSIDE SCHLWATCH TV OR VIDEOS

---

**Description:** Students' reports on hours each day spent watching television or videos

**Table / Figure Reference:** BMRT4.8a/BSRT4.8a

**Source Variable(s):** SQ2-6a                      (BSBGDAY1)

**Notes:** Hours based on SQ2-6a response categories recoded to numerical values:  
No time = 0; less than 1 hour = 0.5; 1-2 hours = 1.5; 3-5 hours = 4; more than 5 hours = 7.

---

<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
Singapore	D	Original variable used open-ended format (hours on normal school day); coded to international categories during data entry. Computed average may be slightly inflated.

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---

**Derived Variable Name:** BSDGDAY2      **Label:** GEN\OUTSIDE SCHL\PLAY COMPUTER GAMES

---

**Description:** Students' reports on hours each day spent playing computer games

**Table / Figure Reference:** BMRT4.8b/BSRT4.8b

**Source Variable(s):** SQ2-6b                      (BSBGDAY2)

**Notes:** Hours based on SQ2-6b response categories recoded to numerical values:  
No time = 0; less than 1 hour = 0.5; 1-2 hours = 1.5; 3-5 hours = 4; more than 5 hours = 7.

---

<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
Singapore	D	Original variable used open-ended format (hours on normal school day); coded to international categories during data entry. Computed average may be slightly inflated.

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**Derived Variable Name:** BSDGDAY3      **Label:** GEN\OUTSIDE SCHL\PLAY WITH FRIENDS

---

**Description:** Students' reports on hours each day spent playing or talking with friends

**Table / Figure Reference:** BMRT4.8c/BSRT4.8c

**Source Variable(s):** SQ2-6c                      (BSBGDAY3)

**Notes:** Hours based on SQ2-6c response categories recoded to numerical values:  
No time = 0; less than 1 hour = 0.5; 1-2 hours = 1.5; 3-5 hours = 4; more than 5 hours = 7.

---

<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
Singapore	D	Original variable used open-ended format (hours on normal school day); coded to international categories during data entry. Computed average may be slightly inflated.

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---

**Derived Variable Name:** BSDGDAY4      **Label:** GEN\OUTSIDE SCHL\DOING JOBS AT HOME

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**Description:** Students' reports on hours each day spent doing jobs at home

**Table / Figure Reference:** BMRT4.8d/BSRT4.8d

**Source Variable(s):** SQ2-6d                      (BSBGDAY4)

**Notes:** Hours based on SQ2-6d response categories recoded to numerical values:  
No time = 0; less than 1 hour = 0.5; 1-2 hours = 1.5; 3-5 hours = 4; more than 5 hours = 7.

---

<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
Singapore	D	Original variable used open-ended format (hours on normal school day); coded to international categories during data entry. Computed average may be slightly inflated.

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**Derived Variable Name:** BSDGDAY5      **Label:** GEN\OUTSIDE SCHL\PLAYING SPORTS

**Description:** Students' reports on hours each day spent playing sports

**Table / Figure Reference:** BMRT4.8e/BSRT4.8e

**Source Variable(s):** SQ2-6e                      (BSBGDAY5)

**Notes:** Hours based on SQ2-6e response categories recoded to numerical values:  
No time = 0; less than 1 hour = 0.5; 1-2 hours = 1.5; 3-5 hours = 4; more than 5 hours = 7.

---

<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
Singapore	D	Original variable used open-ended format (hours on normal school day); coded to international

---

**Derived Variable Name:** BSDGDTV      **Label:** GEN\OUTSIDE SCHLWATCH TV OR VIDEOS

**Description:** Students' reports on time spent on a normal school day watching television or videos - reporting categories

**Table / Figure Reference:** BMRT4.10/BSRT4.10

**Source Variable(s):** SQ2-6a                      (BSBGDAY1)

**Notes:** Coded into 4 collapsed categories based on students' responses to SQ1-6a:  
1 = <1 hour (No time or < 1 hour: option 1 or 2);  
3 = 1-2 hours (option 3);  
4 = 3-5 hours (option 4);  
5 = > 5 hours (option 5).

**Country:**      **Code:**      **Comment:**

**Derived Variable Name:** BSDGEDUP    **Label:**

Sweden	D	Option 1 = 3 years university or more; Option 2 combines two upper-secondary tracks (academic or vocational) and <3 years university studies; Option 3 includes Compulsory School (grades 1-9) and starting upper-secondary.
Switzerland	D	Option 2 includes two upper-secondary tracks (academic and vocational), teacher training, and Applied Science University; Option 3 = Finished primary or lower secondary.
Thailand	D	Option 1 = Finished Tertiary (4 years); Option 2 combines two upper-secondary tracks (academic or vocational) and Finished Higher Certificate Level (2 years).

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**Derived Variable Name:** BSDGFIP5      **Label:** GEN\FRIENDS IMPT\GOOD IN SPORTS

**Description:** Students' reports about whether their friends think it is important to be good at sports

**Table / Figure Reference:** BMRT4.6e/BSRT4.6e

**Source Variable(s):** SQ2-15e                      (BSBGFIP5)

**Notes:** Coded into 3 collapsed categories based on students' responses to SQ2-15e:  
1 = Agree or Strongly Agree (option 1 or 2);  
3 = Disagree (option 3);  
4 = Strongly Disagree (option 4).

---

<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
All		Data considered internationally comparable for reporting.

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**Derived Variable Name:** BSDGMATT      **Label:** GEN\OVERALL ATTITUDE\TOWARD MATHEMATICS

**Description:** Students' overall attitude toward mathematics - index based on 5 variables

**Table / Figure Reference:** BMRT4.15/BMRF4.4

**Source Variable(s):** SQ2-21a;23a,b,d,e      (BSBMLIKE,BSBMENJY,BSBMBORE,BSBMLIFE,BSBMWORK)

**Notes:** Index of overall attitude towards mathematics based on the average response to five questions:  
How much do you like mathematics (SQ2-21a);  
I enjoy learning mathematics (SQ2-23a);  
Mathematics is boring (SQ2-23b);  
Mathematics is important to everyone's life (SQ2-23d);  
I would like a job that involved using mathematics (SQ2-23e).  
The BSDGMATT index variable is based on a 4-point Likert-type scale ranging from most negative to most positive.  
In computing averages, reverse-scale val0.0095( )ons:e(ing m t)-90(r report)-21a)5( ),;21ad2(s)-,(t)ltry168.45 het3(A)-2TJl.(-0.508l415(d ler3(y

**Derived Variable Name:** BSDGMIP4      **Label:** GEN\MOTHERS IMPT\GOOD IN SPORTS

**Description:** Students' reports about whether their mothers think it is important to be good at sports

**Table / Figure Reference:** BMRT4.5e/BSRT4.5e

**Derived Variable Name:** BSDGPSA      **Label:** GEN\HOME\POSSESS ALL\COMPUTER\DESK\DICTIONARY

**Description:**



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**Derived Variable Name:** BSDMCOMP    **Label:** MAT\USE COMPUTERS

---

**Description:** Students' reports on frequency of using computers in mathematics class

**Table / Figure Reference:** BMRT5.18

**Source Variable(s):** SQ2-25g                      (BSBMCOMP)

**Notes:** Coded into 3 collapsed categories based on students' responses to SQ2-25g:  
1 = Pretty Often or Always (option 1 or 2);  
2 = Once in a While (option 3);  
3 = Never (option 4).

---

<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
All		Data considered internationally comparable for reporting.

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

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**Description:** Students' reports on hours each day spent studying or doing homework in mathematics

**Table / Figure Reference:** BMRT4.7a/BSRT4.7b

**Source Variable(s):** SQ2-6g                      (BSBMDAY7)

**Notes:** Hours based on SQ2-6g response categories recoded to numerical values:  
No time = 0; less than 1 hour = 0.5; 1-2 hours = 1.5; 3-5 hours = 4; more than 5 hours = 7.

---

<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
England	X	Data not available for source variable(s).
Singapore	D	Original variable used open-ended format (hours on normal school day); coded to international categories during data entry. Computed average may be Co9gotainat

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**Derived Variable Name:** BSDMDOW2    **Label:** MAT\DO WELL\GOOD LUCK

**Description:** Students' reports about whether you need good luck to do well in mathematics at school

**Table / Figure Reference:** BMRT4.12b

**Source Variable(s):** SQ2-19b                      (BSBMDOW2)

**Notes:** Coded into 2 collapsed categories based on students' responses to SQ2-19b:  
1 = Yes (Strongly Agree or Agree - option 1 or 2 );  
2 = No (Disagree or Strongly Disagree - option 3 or 4).

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<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
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**Derived Variable Name:**

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**Derived Variable Name:** BSDMPRNT **Label:** MAT\DO WELL\TO PLEASE PARENTS

---

**Description:** Students' perceptions about the need to do well in mathematics to please their parents

**Table / Figure Reference:** BMRT4.13b

**Source Variable(s):** SQ2-24b (BSBMPRNT)

**Notes:** Coded into 3 collapsed categories based on students' responses to SQ2-24b:  
1 = Strongly Agree (option 1);  
2 = Agree (option 2);  
3 = Disagree or Strongly Disagree (option 3 or 4).

---

<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
All		Data considered internationally comparable for reporting.

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**Derived Variable Name:** BSDMSCHL **Label:** MAT\DO WELL\TO ENTER DESIRED SCHOOL

---

**Description:** Students' perceptions about the need to do well in mathematics to get into their preferred university or secondary school

**Table / Figure Reference:** BMRT4.13c

**Source Variable(s):** SQ2-24c (BSBMSCHL)

**Notes:** Coded into 3 collapsed categories based on students' responses to SQ2-24c:  
1 = Strongly Agree (option 1);  
2 = Agree (option 2);  
3 = Disagree or Strongly Disagree (option 3 or 4).

---

<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
All		Data considered internationally comparable for reporting.

---

---

**Derived Variable Name:** BSDMSIP2 **Label:** MAT\SELF IMPT\DO WELL IN MATH

---

**Description:** Students' reports about whether they think it is important to do well in mathematics at school

**Table / Figure Reference:** BMRT4.4a/BSRT4.4b

**Source Variable(s):** SQ2-16b (BSBMSIP2)

**Notes:** Coded into 3 collapsed categories based on students' responses to SQ2-16b:  
1 = Agree or Strongly Agree (option 1 or 2);  
3 = Disagree (option 3);  
4 = Strongly Disagree (option 4).

---

<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
All		Data considered internationally comparable for reporting.

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**Derived Variable Name:** BSDMTEST      **Label:** MAT\HAVE A QUIZ OR TEST

**Description:** Students' reports on frequency of having a quiz or test in mathematics class

**Table / Figure Reference:** BMRT5.23

**Source Variable(s):** SQ2-25c                      (BSBMTEST)

**Notes:** Coded into 3 collapsed categories based on students' responses to SQ2-25c:  
1 = Pretty Often or Almost Always (option 1 or 2);  
2 = Once in a While (option 3);  
3 = Never (option 4).

---

<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
Hungary	D	Possible interpretation issue; asked about a special type of test.

---

**Derived Variable Name:** BSDPCOMP      **Label:**



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**Derived Variable Name:** BSDPEXPR      **Label:** PHY\STUDENTS DO EXPERIMENTS IN CLASS

**Description:** Students' reports on frequency of doing an experiment or practical investigation in physics class

**Table / Figure Reference:** BSRT5.12e

**Source Variable(s):** SQ2S-43p                      (BSBPEXPR)

**Notes:** Coded into 3 collapsed categories based on students' responses to SQ2S-43p:  
1 = Pretty Often or Almost Always (option 1 or 2);  
3 = Once in a While (option 3);  
4 = Never (option 4).  
Only computed for students in countries where the SQ2(s) version of the questionnaire was administered; coded as not administered if SQ2 form was used.

---

<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
Belgium (Fr)	D	Asked both Integrated Science and Biology/Physics questions. Integrated science students coded as Not Administered.
Denmark	D	Reported data are for students taking Physics/Chemistry classes.
France	D	Reported data are for students taking Physics/Chemistry classes.
Netherlands	D	Reported data are for students taking Physics/Chemistry and Physics classes.
Portugal	D	Reported data are for students taking Physics/Chemistry classes.

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---

**Derived Variable Name:** BSDPGOOD      **Label:** PHY\USUALLY DO WELL IN PHYSICAL SCIENCES

**Description:** Students' self-perceptions about usually doing well in physical science

**Table / Figure Reference:** BSRT4.11d/BSRF4.2d

**Source Variable(s):** SQ2S-17d                      (BSBPGOOD)

**Notes:** Coded into 3 collapsed categories based on students' responses to SQ2S-17d: as adm adm adm add11802d

**Derived Variable Name:** BSDPJOB      **Label:** PHY\DO WELL\TO GET DESIRED JOB

**Description:** Students' perceptions about the need to do well in physics to get their desired job

**Table / Figure Reference:** BSRT4.13e

**Source Variable(s):** SQ2S-42a

---

**Derived Variable Name:** BSDPPRNT      **Label:** PHY\DO WELL\TO PLEASE PARENTS

---

**Description:** Students' perceptions about the need to do well in physics to please their parents

**Table / Figure Reference:** BSRT4.15e

**Source Variable(s):** SQ2S-42b                      (BSBPPRNT)

**Notes:** Coded into 3 collapsed categories based on students' responses to SQ2S-42b:  
1 = Agree or Strongly Agree (option 1 or 2);  
3 = Disagree (option 3);  
4 = Strongly Disagree (option 4).  
Only computed for students in countries where the SQ2(s) version of the questionnaire was administered; coded as not administered if SQ2 form was used.

---

<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
Belgium (Fr)	D	Asked both Integrated Science and Biology/Physics questions. Integrated science students coded as Not Administered.
Denmark	D	Reported data are for students taking Physics/Chemistry classes.
France	D	Reported data are for students taking Physics/Chemistry classes.
Netherlands	D	Reported data are for students taking Physics/Chemistry and Physics classes.
Portugal	D	Reported data are for students taking Physics/Chemistry classes.

---

---

**Derived Variable Name:** BSDPSCHL      **Label:** PHY\DO WELL\TO ENTER DESIRED SCHOOL

---

**Description:** Students' perceptions about the need to do well in physics to get into their preferred university or secondary school

**Table / Figure Reference:** BSRT4.14e

**Source Variable(s):** SQ2S-42c                      (BSBPSCHL)

**Notes:** Coded into 3 collapsed categories based on students' responses to SQ2S-42c:  
1 = Agree or Strongly Agree (option 1 or 2);  
3 = Disagree (option 3);  
4 = Strongly Disagree (option 4).  
Only computed for students in countries where the SQ2(s) version of the questionnaire was administered; coded as not administered if SQ2 form was used.

---

<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
Belgium (Fr)	D	Asked both Integrated Science and Biology/Physics questions. Integrated science students coded as Not Administered.
Denmark	D	Reported data are for students taking Physics/Chemistry classes.
France	D	Reported data are for students taking Physics/Chemistry classes.
Netherlands	D	Reported data are for students taking Physics/Chemistry and Physics classes.
Portugal	D	Reported data are for students taking Physics/Chemistry classes.

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**Derived Variable Name:**

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**Derived Variable Name:** BSDSDAY8      **Label:** SCIOUTSIDE SCHL\STUDYING SCIENCE

**Description:** Students' reports on hours each day spent studying or doing homework in science

**Table / Figure Reference:** BMRT4.7b/BSRT4.7a

**Source Variable(s):** SQ2-6h                      (BSBSDAY8)

**Notes:** Hours based on SQ2-6h response categories recoded to numerical values:  
No time = 0; less than 1 hour = 0.5; 1-2 hours = 1.5; 3-5 hours = 4; more than 5 hours = 7.

---

<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
England	X	Data not available for source variable(s).
Singapore	D	Original variable used open-ended format (hours on normal school day); coded to international

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**Derived Variable Name:** BSDSDOW2 **Label:** SCIDO WELL\GOOD LUCK

---

**Description:** Students' reports about whether you need good luck to do well in science at school

**Table / Figure Reference:** BSRT4.12b

**Source Variable(s):** SQ2-20b (BSBSDOW2)

**Notes:** Coded into 2 collapsed categories based on students' responses to SQ2-20b:  
1 = Yes (Strongly Agree or Agree - option 1 or 2 );  
2 = No (Disagree or Strongly Disagree - option 3 or 4).

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<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
Scotland	X	Data not available for source variable(s).

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**Derived Variable Name:** BSDSDOW3 **Label:** SCIDO WELL\HARD WORK STUDYING

---

**Description:** Students' reports about whether you need lots of hard work studying at home to do well in science at school

**Table / Figure Reference:** BSRT4.12c

**Source Variable(s):** SQ2-20c (BSBSDOW3)

**Notes:** Coded into 2 collapsed categories based on students' responses to SQ2-20c:  
1 = Yes (Strongly Agree or Agree - option 1 or 2 );  
2 = No (Disagree or Strongly Disagree - option 3 or 4).

---

<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
Scotland	X	Data not available for source variable(s).

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**Derived Variable Name:** BSDSDOW4 **Label:** SCIDO WELL\MEMORIZE NOTES

---

**Description:** Students' reports about whether you need to memorize the textbook or notes to do well in science at school

**Table / Figure Reference:** BSRT4.12d

**Source Variable(s):** SQ2-20d (BSBSDOW4)

**Notes:** Coded into 2 collapsed categories based on students' responses to SQ2-20d:  
1 = Yes (Strongly Agree or Agree - option 1 or 2 );  
2 = No (Disagree or Strongly Disagree - option 3 or 4).

---

<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
Scotland	X	Data not available for source variable(s).

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**Derived Variable Name:**

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**Derived Variable Name:** BSDSFIP1      **Label:** SCIFRIENDS IMPTDO WELL IN SCIENCE

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**Description:** Students' reports about whether their friends think it is important to do well in science at school

**Table / Figure Reference:** BMRT4.6b/BSRT4.6a

**Source Variable(s):** SQ2-15a                      (BSBSFIP1)

**Notes:** Coded into 3 collapsed categories based on students' responses to SQ2-15a:  
1 = Agree or Strongly Agree (option 1 or 2);  
3 = Disagree (option 3);  
4 = Strongly Disagree (option 4).

---

<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
All		Data considered internationally comparable for reporting.

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---

**Derived Variable Name:** BSDSGOOD      **Label:** SCIUSUALLY DO WELL IN SCIENCE

---

**Description:** Students' self-perceptions about usually doing well in science

**Table / Figure Reference:** BSRT4.11a/BSRF4.2a

**Source Variable(s):** SQ2G-17b                      (BSBSGOOD)

**Notes:** Coded into 3 collapsed categories based on students' responses to SQ2G-17b:  
1 = Agree or Strongly Agree (option 1 or 2);  
3 = Disagree (option 3);  
4 = Strongly Disagree (option 4).  
Only computed for students in countries where the SQ2 version of the questionnaire was administered; coded as not administered if SQ2(s) form was used.

---

<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
Austria	X	Integrated science question not administered; asked SQ2(S) form. Data reported in biology, earth science and physical science (BSDBGOOD, BSDEGOOD, BSDPGOOD).
Belgium (Fr)	D	Asked integrated science question. Biology/Physics students coded as Not Administered.
Greece	X	Asked integrated science question; data for upper-grade students reported in Physical Science (BSDPGOOD).
Sweden	X	Administered integrated science question to lower-grade only.

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Label: SCIMOTHERS IMPTDO WELL IN SCIENCE

do well in science at school

Table / Figure Reference: BMRT4.5b/BSRT4.5a

Source Variable(s):

Label: SCINDO WELL\TO PLEASE PARENTS

ple their parents

Table / Figure Reference: BSRT4.15a

Source Variable(s):

**Derived Variable Name:** BSDSSCHL      **Label:** SCIDO WELL\TO ENTER DESIRED SCHOOL

**Description:** Students' perceptions about the need to do well in science to get into their preferred university or secondary school

**Table / Figure Reference:**

**Derived Variable Name:** BSDSTEST      **Label:** SCIHAVE A QUIZ OR TEST

**Description:** Students' reports on frequency of having a quiz or test in science class

**Table / Figure Reference:** BSRT5.23a

**Source Variable(s):** SQ2G-31c      (BSBSTEST)

**Notes:** Coded into 3 collapsed categories based on students' responses to SQ2G-31c:  
1 = Pretty Often or Almost Always (option 1 or 2);  
2 = Once in a While (option 3);

# Section 4

**Derived Variable Name:** BTDCSIZE

**Label:**



**Derived Variable Name: BTDGACT3**

**Description:** Teachers' reports about hours per week spent on professional reading and development

**Table / Figure Reference:** BMRT5.6f/BSRT5.6f

L a b e l :

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<b>Derived Variable Name:</b> BTDGAGE	<b>Label:</b> GENAGE OF TEACHER
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**Description:** Teachers' age

**Table / Figure Reference:** BMRT5.2a/BSRT5.2a

**Source Variable(s):** TQM2A1; TQS2A1 (BTBGAGE)

**Notes:** Teachers' age reported in 4 collapsed categories based on teachers' reports in math or science teacher variables (TQS2A1 or TQM2A1):  
1 = 29 or Younger (Under 25 or 25-29: option 1 or 2)  
2 = 30-39 (option 3)  
3 = 40-49 (option 4)  
4 = 50 or Older (50-59 or 60 or more: option 5 or 6)

---

<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
All		Data considered internationally comparable for reporting.

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<b>Derived Variable Name:</b> BTDGASS1	<b>Label:</b> GEN\FREQUENCYPROVIDE GRADES
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**Description:** Teachers' reports about how often they use assessment information to provide student grades

**Table / Figure Reference:** BMRT5.22a/BSRT5.22a

**Source Variable(s):** TQM2B23a; TQS2B23a (BTBGASS1)

**Notes:** Coded into 2 collapsed frequency categories based on teachers' responses to TQS2B23a or TQM2B23a:  
1 = A Great Deal or Quite A Lot (option 3 or 4);  
2 = None or Little (option 1 or 2).

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<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
Scotland	X	Data not available for source variable(s).

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<b>Derived Variable Name:</b> BTDGASS2	<b>Label:</b> GEN\FREQUENCYPROVIDE FEEDBACK
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**Description:** Teachers' reports about how often they use assessment information to provide feedback to students

**Table / Figure Reference:** BMRT5.22b/BSRT5.22b

**Source Variable(s):** TQM2B23b; TQS2B23b (BTBGASS2)

**Notes:** Coded into 2 collapsed frequency categories based on teachers' responses to TQS2B23b or TQM2B23b:  
1 = A Great Deal or Quite A Lot (option 3 or 4);  
2 = None or Little (option 1 or 2).

---

<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
Scotland	X	Data not available for source variable(s).

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**Derived Variable Name:** BTDGASS3

**Label:** GEN\FREQUENCYDIAGNOSE PROBLEMS

**Description:**

**Table / Figure Reference:** BMRT5.22c/BSRT5.22c

**Derived Variable Name:** BTDGASS6

**Label:** GEN\FREQUENCY\PLAN FUTURE LESSONS

**Description:**

**Table / Figure Reference:** BMRT5.22f/BSRT5.22f

Derived VariaS8u-1(l)-3(d N405 -12 re f BT /F1 1 Tf 9.aa1(l)m1 1 F1 1 :)]TJ ET710.37 177 /F1 1 Tf 84015 0 0 9.015 73.22 700.65

**Derived Variable Name:** BTDMAGR6

**Label:** MATUSE MORE THAN 1 REPRESENTATION

**Description:**

**Table / Figure Reference:** BMRF5.1d

**Derived Variable Name:**



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**Derived Variable Name:** BTDMCAL5      **Label:** MATICALCS FOR NUMBER CONCEPTS

**Description:** Math teachers' reports about how often students use calculators to explore number concepts in math class

**Table / Figure Reference:** BMRT5.15f

**Source Variable(s):** TQM2B9e      (BTBMCAL5)

**Notes:** Coded into 2 collapsed categories based on math teachers' responses to TQM2B9e:  
1 = At Least Once or Twice a Week (Almost Every Day or Once/Twice a Week: option 1 or 2);  
2 = Less Than Once a Week (Once/Twice a Month or Never/Hardly Ever: option 3 or 4).

---

<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
Scotland	X	Data not available for source variable(s).

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**Derived Variable Name:** BTDMCALU      **Label:** MATFREQUENCY STUDENTS USE CALCS

**Description:** Math teachers' reports about how often students use calculators in math class for different activities

**Table / Figure Reference:** BMRT5.14

**Source Variable(s):** TQM2B9a-e      (BTBMCAL1- BTBMCAL5)

**Notes:** Based on the most frequent response category reported across five separate math teacher questions regarding calculator use: checking answers (TQM2B9a), tests and exams (TQM2B9b), routine computation (TQM2B9c), solving complex problems (TQM2B9d), exploring number concepts (TQM2B9e). Coded according to the original source variable frequency categories:  
1 = Almost Every Day;  
2 = Once or Twice a Week;  
3 = Once or Twice a Month;  
4 = Never or Hardly Ever.  
Coded as missing if all five source variables are missing.

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<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
Scotland	X	Data not available for source variable(s).

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**Derived Variable Name:** BTDMHWRK      **Label:** MAT\AVERAGE TIME NEEDED FOR HOMEWK

**Description:** Math teachers' reports about the amount of mathematics homework assigned

**Table / Figure Reference:** BMRT5.19

**Source Variable(s):** TQM2B18,19      (BTBMHMW2,BTBMHWT2)

**Notes:** Derived from math teachers' responses to two questions regarding how often mathematics homework is assigned (TQM2B18) and how many minutes of mathematics homework is assigned (TQM2B19). Coded into 7 categories of homework amount/frequency:

- 1 = No Homework (TQM2B19 = 1);
  - 2 = Assign 30 minutes or less/less than once a week (TQM2B18 = 2 and TQM2B19 = 2 or 3);
  - 3 = Assign more than 30 minutes/less than once a week (TQM2B18 = 2 and TQM2B19 = 4, 5 or 6);
  - 4 = Assign 30 minutes or less/once or twice a week (TQM2B18 = 3 and TQM2B19 = 2 or 3);
  - 5 = Assign more than 30 minutes/once or twice a week (TQM2B18 = 3 and TQM2B19 = 4, 5 or 6);
  - 6 = Assign 30 minutes or less/three times a week or more (TQM2B18 = 4 or 5 and TQM2B19 = 2 or 3);
  - 7 = Assign more than 30 minutes/three times a week or more (TQM2B18 = 4 or 5 and TQM2B19 = 4, 5 or 6).
- BTDMHWRK is coded as missing if either of the source variables is missing.

---

<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
All		Data considered internationally comparable for reporting.

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---

**Derived Variable Name:** BTDMIMP1      **Label:** MAT\GD\IMPT\REMEMBER FORMULAS

**Description:** Math teachers' reports about how important it is for students to remember formulas and procedures to be good at mathematics at school

**Table / Figure Reference:** BMRF5.2a

**Source Variable(s):** TQM2A15a      (BTBMIMP1)

**Notes:** Coded into 2 collapsed categories based on math teachers' responses to TQM2A15a:

- 1 = Very Important (option 3);
- 2 = Somewhat/Not Important (option 2 or 1).

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<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
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**Derived Variable Name:** BTDMLES2      **Label:** MATINDIVIDUAL WORK\ASSISTANCE

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**Description:** Math teachers' reports about how often students work individually with assistance from the teacher in math lessons

**Table / Figure Reference:** BMRF5.3c

**Source Variable(s):** TQM2B17b      (BTBMLES2)

**Notes:** Coded into 2 collapsed categories based on math teachers' responses to TQM2B17b:  
1 = Never or Some Lessons (option 1 or 2);  
2 = Most or Every Lesson (option 3 or 4).

---

<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
All		Data considered internationally comparable for reporting.

---

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**Derived Variable Name:** BTDMLES3      **Label:** MATWORK TOGETHER\TEACHER TEACHES

---

**Description:** Math teachers' reports about how often students work together as a class with the teacher teaching the whole class in math lessons

**Table / Figure Reference:** BMRF5.3b

**Source Variable(s):** TQM2B17c      (BTBMLES3)

**Notes:** Coded into 2 collapsed categories based on math teachers' responses to TQM2B17c:  
1 = Never or Some Lessons (option 1 or 2);  
2 = Most or Every Lesson (option 3 or 4).

---

<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
All		Data considered internationally comparable for reporting.

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**Derived Variable Name:** BTDMLES4      **Label:** MATWORK TOGETHER\STUDENTS INTERACT

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**Description:** Math teachers' reports about how often students work together as a class with students responding to one another in math lessons

**Table / Figure Reference:** BMRF5.3a

**Source Variable(s):** TQM2B17d      (BTBMLES4)

**Notes:** Coded into 2 collapsed categories based on math teachers' responses to TQM2B17d:  
1 = Never or Some Lessons (option 1 or 2);  
2 = Most or Every Lesson (option 3 or 4).

---

<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
All		Data considered internationally comparable for reporting.

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**Derived Variable Name:** BTDMSRC2

**Label:** MATSOURCEHOW TO PRESENT A TOPIC

**Description:** Math teachers' reports about their main source of written information when deciding how to present a topic

**Table / Figure Reference:** BMRT5.9b

**Source Variable(s):**

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**Derived Variable Name:** BTDMTIME      **Label:** MAT\CLSS\LENGTH OF MATH CLASS

---

**Description:** Math teachers' reports about the number of hours mathematics is taught weekly to their mathematics class

**Table / Figure Reference:** BMRT5.5

**Source Variable(s):** TQM2B3      (BTBMTIME)

**Notes:** Computed from the number of minutes reported by math teachers in the open-ended source question (TQM2B3) divided by 60. Coded into 4 categories:

- 1 = <2 hours;
- 2 = 2 - <3.5 hours;
- 3 = 3.5 - 5 hours;
- 4 = >5 hours.

---

<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
Denmark	X	Data not available for source variable(s).
England	X	Omitted from report variable; data retained in original variable (TQM2-B3).
Iran	X	Data not available for source variable(s).
Singapore	D	Data obtained from ministry; derived from school questionnaire data.

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**Derived Variable Name:** BTDMTST      **Label:** MAT\MATH TEACHING SCHEDULE TIME

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**Description:** Math teachers' reports about the proportion of formally scheduled school time spent teaching mathematics

**Table / Figure Reference:** BMRT5.4

**Source Variable(s):** TQM2A9a-i;10a-f      (BTBMSUB1,BTBSSUB2- BTBSSUB8, BTBGSUB9,BTBGTSK1- BTBGTSK6)

**Notes:** Derived from math teachers' responses to open-ended questions about the number of hours/periods teaching mathematics, science and other subjects (TQM2A9a-i) and the hours/periods spent performing other formally-scheduled school-related responsibilities (TQM2A10a-f). The proportion teaching mathematics is the percentage of the total hours/periods of formally-scheduled school time spent teaching mathematics. It is computed from the hours/periods teaching mathematics (TQM2A9a) divided by the total hours/periods spent teaching all subjects (TQM2A9a-i) and the hours/period performing other responsibilities (TQM2A10a-f). BTDMTST is coded into 3 categories based on the computed percentages:

- 1 = <50%;
- 2 = 50% - <75%;
- 3 = 75% - 100%.

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<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
Greece	X	Data not available for source variable(s).
Hungary	X	Data not available for source variable(s).
Singapore	D	Data obtained from ministry based on teachers' personal time tables.

---



**Derived Variable Name:** BTDMWGT1

**Label:** MAT\ASSMNT WEIGHT\STANDARD TESTS

**Description:** Math teachers' reports about how much weight they give to standardized tests in assessing students in math class

**Table / Figure Reference:** BMRT5.21a

**Source Variable(s):** TQM2B22a

(BTBMWGT1)

**Notes:** Coded into 2 collapsed categories based on math teachers' responses to TQM2B22a:  
1 = A Great Deal or Quite A Lot (option 3 or 4);  
2 = None or Little (option 1 or 2).

**Country:**

**Code:**

**Comment:**

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---

**Derived Variable Name:** BTDMWGT4 **Label:** MAT\ASSMNT WEIGHT\HOMEWORK PERFRMNCE

**Description:** Math teachers' reports about how much weight they give to homework assignments in assessing students in math class

**Table / Figure Reference:** BMRT5.21d

**Source Variable(s):** TQM2B22d (BTBMWGT4)

**Notes:** Coded into 2 collapsed categories based on math teachers' responses to TQM2B22d:  
1 = A Great Deal or Quite A Lot (option 3 or 4);  
2 = None or Little (option 1 or 2).

---

<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
Scotland	X	Data not available for source variable(s).

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**Derived Variable Name:** BTDMWGT5 **Label:** MAT\ASSMNT WEIGHT\PROJECT PERFORMNCE

**Description:** Math teachers' reports about how much weight they give to projects or practical exercises in assessing students in math class

**Table / Figure Reference:** BMRT5.21e

**Source Variable(s):** TQM2B22e (BTBMWGT5)

**Notes:** Coded into 2 collapsed categories based on math teachers' responses to TQM2B22e:  
1 = A Great Deal or Quite A Lot (option 3 or 4);  
2 = None or Little (option 1 or 2).

---

<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
Scotland	X	Data not available for source variable(s).

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**Derived Variable Name:** BTDMWGT6 **Label:** MAT\ASSMNT WEIGHT\OBSERVATION

**Description:** Math teachers' reports about how much weight they give to observations of students in assessing students in math class

**Table / Figure Reference:** BMRT5.21f

**Source Variable(s):** TQM2B22f (BTBMWGT6)

**Notes:** Coded into 2 collapsed categories based on math teachers' responses to TQM2B22f:  
1 = A Great Deal or Quite A Lot (option 3 or 4);  
2 = None or Little (option 1 or 2).

---

<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
Scotland	X	Data not available for source variable(s).

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**Derived Variable Name:** BTDSAGR4

**Label:** SC\NATURAL TALENT FOR SCIENCE

**Description:** Science teachers' reports about the extent to which they agree that some students have a natural talent for science and others do not

**Table / Figure Reference:** BSRF5.1c

**Source Variable(s):**

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**Derived Variable Name:** BTDSCAL1      **Label:** SCI\CALCS FOR CHECKING ANSWERS

---

**Description:** Science teachers' reports about how often students use calculators to check answers in science class

**Table / Figure Reference:** BSRT5.16b

**Source Variable(s):** TQS2B9a      (BTBSCAL1)

**Notes:** Coded into 2 collapsed categories based on science teachers' responses to TQS2B9a:  
1 = At Least Once or Twice a Week (Almost Every Day or Once/Twice a Week: option 1 or 2);  
2 = Less Than Once a Week (Once/Twice a Month or Never/Hardly Ever: option 3 or 4).

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<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
Scotland	X	Data not available for source variable(s).

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---

**Derived Variable Name:** BTDSCAL2      **Label:** SCI\CALCS FOR TESTS AND EXAMS

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**Description:** Science teachers' reports about how often students use calculators during tests and exams in science class

**Table / Figure Reference:** BSRT5.16c

**Source Variable(s):** TQS2B9b      (BTBSCAL2)

**Notes:** Coded into 2 collapsed categories based on science teachers' responses to TQS2B9b:  
1 = At Least Once or Twice a Week (Almost Every Day or Once/Twice a Week: option 1 or 2);  
2 = Less Than Once a Week (Once/Twice a Month or Never/Hardly Ever: option 3 or 4).

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<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
Scotland	X	Data not available for source variable(s).

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**Derived Variable Name:** BTDSCAL3      **Label:** SCI\CALCS FOR ROUTINE COMPUTATIO

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**Description:** Science teachers' reports about how often students use calculators to do routine computation in science class

**Table / Figure Reference:** BSRT5.16d

**Source Variable(s):** TQS2B9c      (BTBSCAL3)

**Notes:** Coded into 2 collapsed categories based on science teachers' responses to TQS2B9c:  
1 = At Least Once or Twice a Week (Almost Every Day or Once/Twice a Week: option 1 or 2);  
2 = Less Than Once a Week (Once/Twice a Month or Never/Hardly Ever: option 3 or 4).

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<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
Scotland	X	Data not available for source variable(s).

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**Derived Variable Name:** BTDSCAL4      **Label:** SCI\CALCS FOR COMPLEX PROBLEMS

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**Description:** Science teachers' reports about how often students use calculators to solve complex problems in science class

**Table / Figure Reference:** BSRT5.16e

**Source Variable(s):** TQS2B9d      (BTBSCAL4)

**Notes:** Coded into 2 collapsed categories based on science teachers' responses to TQS2B9d:  
1 = At Least Once or Twice a Week (Almost Every Day or Once/Twice a Week: option 1 or 2);  
2 = Less Than Once a Week (Once/Twice a Month or Never/Hardly Ever: option 3 or 4).

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<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
Norway	X	Data not available for source variable(s).
Scotland	X	Data not available for source variable(s).

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**Derived Variable Name:** BTDSCAL5      **Label:** SCI\CALCS FOR NUMBER CONCEPTS

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**Description:** Science teachers' reports about how often students use calculators to explore number concepts in science class

**Table / Figure Reference:** BSRT5.16f

**Source Variable(s):** TQS2B9e      (BTBSCAL5)

**Notes:** Coded into 2 collapsed categories based on science teachers' responses to TQS2B9e:  
1 = At Least Once or Twice a Week (Almost Every Day or Once/Twice a Week: option 1 or 2);  
2 = Less Than Once a Week (Once/Twice a Month or Never/Hardly Ever: option 3 or 4).

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<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
Norway	X	Data not available for source variable(s).
Scotland	X	Data not available for source variable(s).

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**Derived Variable Name:** BTDSCALU      **Label:** SCI\FREQUENCY STUDENTS USE CALCS

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**Description:** Science teachers' reports about how often students use calculators in science class for different activities

**Table / Figure Reference:** BSRT5.15

**Source Variable(s):** TQS2B9a-e      (BTBSCAL1- BTBSCAL5)

**Notes:** Based on the most frequent response category reported across five separate science teacher questions regarding calculator use: checking answers (TQS2B9a), tests and exams (TQS2B9b), routine computation (TQS2B9c), solving complex problems (TQS2B9d), exploring number concepts (TQS2B9e). Coded into the original source variable frequency categories:

1 = Almost Every Day;

2 = Once or Twice a Week;

3 = Once or Twice a Month;

4 = Never or Hardly Ever.

Coded as missing if all five source variables are missing.

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<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
Norway	D	Did not include questions about Solving Complex Problems and Exploring Number Concepts.
Scotland	X	Data not available for source variable(s).

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**Derived Variable Name:** BTDSHWK      **Label:** SCIAVERAGE TIME NEEDED FOR HOMEWK

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**Description:** Science teachers' reports about the amount of science homework assigned

**Table / Figure Reference:** BSRT5.19

**Source Variable(s):** TQS2B18,19      (BTBSHMW2,BTBSHWT2)

**Notes:** Derived from science teachers' responses to two questions regarding how often science homework is assigned (TQS2B18) and how many minutes of science homework is assigned (TQS2B19). Coded into 7 categories of homework amount/frequency:

1 = No Homework (TQS2B19 = 1);

2 = Assign 30 minutes or less/less than once a week (TQS2B18 = 2 and TQS2B19 = 2 or 3);

3 = Assign more than 30 minutes/less than once a week (TQS2B18 = 2 and TQS2B19 = 4, 5 or 6);

4 = Assign 30 minutes or less/once or twice a week (TQS2B18 = 3 and TQS2B19 = 2 or 3);

5 = Assign more than 30 minutes/once or twice a week (TQS2B18 = 3 and TQS2B19 = 4, 5 or 6);

6 = Assign 30 minutes or less/three times a week or more (TQS2B18 = 4 or 5 and TQS2B19 = 2 or 3);

7 = Assign more than 30 minutes/three times a week or more (TQS2B18 = 4 or 5 and TQS2B19 = 4, 5 or 6).

BTDSHWK is coded as missing if either of the source variables is missing.

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<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
Australiatia	X	Data not available for source variable(s).

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**Derived Variable Name:**

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**Derived Variable Name:** BTDSLES3      **Label:** SCI\WORK TOGETHER\TEACHER TEACHES

**Description:** Science teachers' reports about how often students work together as a class with the teacher teaching the whole class in science lessons

**Table / Figure Reference:** BSRF5.3b

**Source Variable(s):** TQS2B17c      (BTBSLES3)

**Notes:** Coded into 2 collapsed categories based on science teachers' responses to TQS2B17c:  
1 = Never or Some Lessons (option 1 or 2);  
2 = Most or Every Lesson (option 3 or 4).

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<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
All		Data considered internationally comparable for reporting.

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**Derived Variable Name:** BTDSLES4      **Label:** SCI\WORK TOGETHER\STUDENTS INTERACT

**Description:** Science teachers' reports about how often students work together as a class with students responding to one another in science lessons

**Table / Figure Reference:** BSRF5.3a

**Source Variable(s):** TQS2B17d      (BTBSLES4)

**Notes:** Coded into 2 collapsed categories based on science teachers' responses to TQS2B17d:  
1 = Never or Some Lessons (option 1 or 2);  
2 = Most or Every Lesson (option 3 or 4).

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<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
All		Data considered internationally comparable for reporting.

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**Derived Variable Name:** BTDSLES5      **Label:** SCI\WORK IN GROUPS\NO ASSISTANCE

**Description:** Science teachers' reports about how often students work in pairs or small groups without assistance from the teacher in science lessons

**Table / Figure Reference:** BSRF5.3f

**Source Variable(s):** TQS2B17e      (BTBSLES5)

**Notes:** Coded into 2 collapsed categories based on science teachers' responses to TQS2B17e:  
1 = Never or Some Lessons (option 1 or 2);  
2 = Most or Every Lesson (option 3 or 4).

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<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
All		Data considered internationally comparable for reporting.

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**Derived Variable Name:** BTDSLES6

**Label:** SCI\WORK IN GROUPS\ASSISTANCE

**Description:** Science teachers' reports about how often students work in pairs or small groups with assistance from the teacher in science lessons

**Table / Figure Reference:** BSRF5.3e

**Source Variable(s):** TQS2B17f (BTBSLES6)

**Notes:** Coded into 2 collapsed categories based on science teachers' responses to TQS2B17f:  
1 = Never or Some Lessons (option 1 or 2);

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**Derived Variable Name:** BTDSSRC2**Label:** SCI\SOURCE\HOW TO PRESENT A TOPIC**Description:** Science teachers' reports about their main source of written information when deciding how to present a topic**Table / Figure Reference:** BSRT5.9b**Source Variable(s):** TQS2B11b

(BTBSSRC2)

**Notes:** Coded into 3 collapsed categories based on science teachers' responses to TQS2B11b:

1 = Curriculum Guides (School Curriculum Guide or National/Regional Curriculum Guide - option 4 or 5);

2 = Textbook (Other Resource Books, Student Edition of Textbook or Teacher Edition of Textbook - Option 1, 2 or 3);

3 = Examination Specifications (National/Regional Examination Specifications - option 6).

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<b>Country:</b>	<b>Code:</b>	<b>Comment:</b>
Australia	D	Exam Specifications Not Included.
Belgium (Fl)	D	Exam Specifications Not Included.
Belgium (Fr)	D	Exam Specifications Not Included.
Canada	X	Data not available for source variable(s).
Czech Republic	D	Exam Specifications Not Included.
Denmark	X	Data not available for source variable(s).
England	X	Omitted from report variable; data retained in original variable (TQS2-B11a).
Germany	D	Exam Specifications Not Included.
Greece	D	Exam Specifications Not Included.
Ireland	D	Exam Specifications Not Included.
Kuwait	X	Only asked Textbooks and Other Resource Books options.
Netherlands	D	Option 1 includes only School Curriculum Guide.
Norway	D	Exam Specifications Not Included.
Portugal	D	Exam Specifications Not Included; Option 1 combines two questions related to national curriculum guide.
Spain	X	Only asked Textbooks and Other Resource Books options.
Sweden	D	Exam Specifications Not Included; Option 1 combines two questions related to national curriculum guide.

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**Derived Variable Name:** BTDSTIME      **Label:**

**Derived Variable Name:** BTDSTST

**Label:** SCI\SCIENCE TEACHING SCHEDULE TIME

**Description:** Science teachers' reports about the proportion of formally scheduled school time spent teaching science

**Table / Figure Reference:** BSRT5.4

**Source Variable(s):** TQS2A9a-i;10a-f

(BTBMSUB1,BTBSSUB2- BTBSSUB8,  
BTBGSUB9,BTBGTSK1- BTBGTSK6)

**Notes:** Derived from science teachers' responses to open-ended questions about the number of hours/period teaching mathematics, science and other subjects (TQS2A9a-i) and the hours/period spent performing other formally-scheduled school-related responsibilities (TQS2A10a-f). The proportion teaching science is the percentage of the total hours/periods of formally-scheduled school time spent teaching science subjects. It is computed from the sum of the hours/period teaching science subjects (TQS2A9b-h) divided by the total hours/periods spent teaching all subjects



