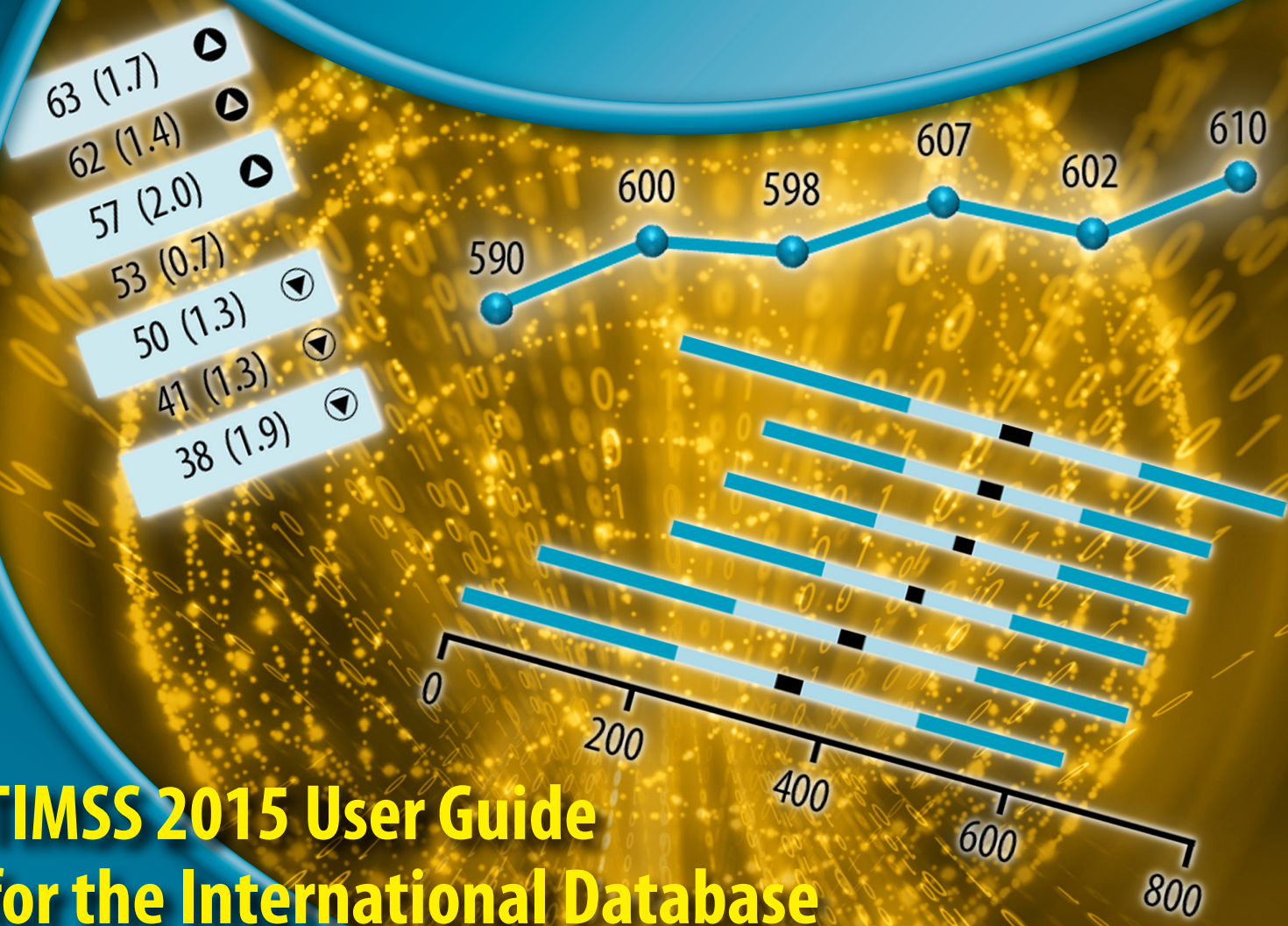


TRENDS IN INTERNATIONAL MATHEMATICS AND SCIENCE STUDY

TIMSS



TIMSS 2015 User Guide for the International Database

SUPPLEMENT 1

International Version of the TIMSS 2015
Context Questionnaires



TIMSS & PIRLS
International Study Center
Lynch School of Education, Boston College

Supplement 1

International Version of the TIMSS 2015 Context Questionnaires

Overview

The TIMSS 2015 International Database includes data for all questionnaires administered as part of the TIMSS 2015 assessment. This supplement contains the international version of the TIMSS 2015 context questionnaires in the following 10 sections:

- Section 1: Fourth Grade Student Questionnaire
- Section 2: Fourth Grade Home Questionnaire (Early Learning Survey)
- Section 3: Fourth Grade Teacher Questionnaire
- Section 4: Fourth Grade School Questionnaire
- Section 5: Fourth Grade Curriculum Questionnaire
- Section 6: Eighth Grade Student Questionnaire – General/Integrated Science Version & Eighth Grade Student Questionnaire – Separate Science Subjects Version
- Section 7: Eighth Grade Mathematics Teacher Questionnaire
- Section 8: Eighth Grade Science Teacher Questionnaire
- Section 9: Eighth Grade School Questionnaire
- Section 10: Eighth Grade Curriculum Questionnaire

Each section contains a table that lists detailed information for each question, followed by the international version of the questionnaire with variable names labeled in the margin. For the eighth grade student questionnaires, although there are two versions of the questionnaire, only one table is presented where it is indicated whether the variables were included in the general/integrated science, the separate science subjects, or both questionnaires.

Exhibits S1.1 through S1.10 list the questions for each of the TIMSS 2015 questionnaires. For each question, the exhibits provide the questionnaire number, the corresponding variable name,

and the question text, as well as whether the question is considered to be ‘trend’—whether a comparable question was asked in 2011.

The TIMSS 2015 questionnaires were designed to provide an opportunity for individual countries to make modifications to some questions or response options. This allowed countries to include the appropriate wording or options most consistent with their own national systems. In the international version of the questionnaires, such questions contain instructions to the National Research Coordinators (NRCs) to substitute the appropriate wording for their country and/or modify or delete any inappropriate questions or options. These instructions were indicated in the questionnaires by text inserted within carets (e.g., <country-specific>). The NRCs were to substitute, if necessary, an appropriate national adaptation that would retain the same basic interpretation as the text within carets. These national adaptations of the context questionnaires are documented in Supplement 2.



TIMSS
2015

SECTION 1:
FOURTH GRADE –
STUDENT
QUESTIONNAIRE

TIMSS 2015 USER GUIDE FOR THE
INTERNATIONAL DATABASE



IEA

TIMSS & PIRLS
International Study Center
Lynch School of Education, Boston College

Exhibit S1.1: Index of International Background Variables for the TIMSS 2015 Student Questionnaire - Fourth Grade

TIMSS 2015 Question Number	TIMSS 2015 Variable Name	TIMSS 2015 Variable Description (See questionnaire for full item text)	TIMSS 2011 Variable Name	Notes
SQG-01	ASBG01	Are you a girl or a boy?	ASBG01	
SQG-02a	ASBG02A	When were you born? Month	ASBG02A	
SQG-02b	ASBG02B	When were you born? Year	ASBG02B	
SQG-03	ASBG03	How often do you speak <language of test> at home?	ASBG03	Modified response options in 2015
SQG-04	ASBG04	About how many books are there in your home? (Do not count magazines, newspapers, or your school books.)	ASBG04	
SQG-05a	ASBG05A	Do you have any of these things at your home? A computer or tablet of your own	ASBG05A	Modified wording in 2015
SQG-05b	ASBG05B	Do you have any of these things at your home? A computer or tablet that is shared with other people at home	ASBG05A	Modified wording in 2015
SQG-05c	ASBG05C	Do you have any of these things at your home? Study desk/table for your use	ASBG05B	
SQG-05d	ASBG05D	Do you have any of these things at your home? Your own room	ASBG05D	
SQG-05e	ASBG05E	Do you have any of these things at your home? Internet connection	ASBG05E	
SQG-05f	ASBG05F	Do you have any of these things at your home? Your own mobile phone		
SQG-05g	ASBG05G	Do you have any of these things at your home? A gaming system		
SQG-05h	ASBG05H	Do you have any of these things at your home? <country-specific indicator of wealth>		
SQG-05i	ASBG05I	Do you have any of these things at your home? <country-specific indicator of wealth>		
SQG-05j	ASBG05J	Do you have any of these things at your home? <country-specific indicator of wealth>		
SQG-05k	ASBG05K	Do you have any of these things at your home? <country-specific indicator of wealth>		
SQG-06A	ASBG06A	Was your mother (or stepmother or female guardian) born in <country>?		
SQG-06B	ASBG06B	Was your father (or stepfather or male guardian) born in <country>?		
SQG-07	ASBG07	Were you born in <country>?		
SQG-08	ASBG08	About how often are you absent from school?		
SQG-09	ASBG09	How often do you eat breakfast on school days?		
SQG-10a	ASBG10A	How often do you use a computer or tablet in each of these places for schoolwork? At home		
SQG-10b	ASBG10B	How often do you use a computer or tablet in each of these places for schoolwork? At school		
SQG-10c	ASBG10C	How often do you use a computer or tablet in each of these places for schoolwork? Some other place		
SQG-11a	ASBG11A	What do you think about your school? Tell how much you agree with these statements. I like being in school	ASBG08A	
SQG-11b	ASBG11B	What do you think about your school? Tell how much you agree with these statements. I feel safe when I am at school	ASBG08B	
SQG-11c	ASBG11C	What do you think about your school? Tell how much you agree with these statements. I feel like I belong at this school	ASBG08C	
SQG-11d	ASBG11D	What do you think about your school? Tell how much you agree with these statements. I like to see my classmates at school		
SQG-11e	ASBG11E	What do you think about your school? Tell how much you agree with these statements. Teachers at my school are fair to me		
SQG-11f	ASBG11F	What do you think about your school? Tell how much you agree with these statements. I am proud to go to this school		
SQG-11g	ASBG11G	What do you think about your school? Tell how much you agree with these statements. I learn a lot in school		
SQG-12a	ASBG12A	During this school year, how often have other students from your school done any of the following things to you? Made fun of me or called me names		
SQG-12b	ASBG12B	During this school year, how often have other students from your school done any of the following things to you? Left me out of their games or activities		

Exhibit S1.1: Index of International Background Variables for the TIMSS 2015 Student Questionnaire - Fourth Grade (Continued)

TIMSS 2015 Question Number	TIMSS 2015 Variable Name	TIMSS 2015 Variable Description (See questionnaire for full item text)	TIMSS 2011 Variable Name	Notes
SQG-12c	ASBG12C	During this school year, how often have other students from your school done any of the following things to you? Spread lies about me		
SQG-12d	ASBG12D	During this school year, how often have other students from your school done any of the following things to you? Stole something from me		
SQG-12e	ASBG12E	During this school year, how often have other students from your school done any of the following things to you? Hit or hurt me		
SQG-12f	ASBG12F	During this school year, how often have other students from your school done any of the following things to you? Made me do things I didn't want to do		
SQG-12g	ASBG12G	During this school year, how often have other students from your school done any of the following things to you? Shared embarrassing information about me		
SQG-12h	ASBG12H	During this school year, how often have other students from your school done any of the following things to you? Threatened me		
SQMS-01a	ASBM01A	How much do you agree with these statements about learning mathematics? I enjoy learning mathematics	ASBM01A	
SQMS-01b	ASBM01B	How much do you agree with these statements about learning mathematics? I wish I did not have to study mathematics	ASBM01B	
SQMS-01c	ASBM01C	How much do you agree with these statements about learning mathematics? Mathematics is boring	ASBM01C	
SQMS-01d	ASBM01D	How much do you agree with these statements about learning mathematics? I learn many interesting things in mathematics	ASBM01D	
SQMS-01e	ASBM01E	How much do you agree with these statements about learning mathematics? I like mathematics	ASBM01E	
SQMS-01f	ASBM01F	How much do you agree with these statements about learning mathematics? I like any schoolwork that involves numbers		
SQMS-01g	ASBM01G	How much do you agree with these statements about learning mathematics? I like to solve mathematics problems		
SQMS-01h	ASBM01H	How much do you agree with these statements about learning mathematics? I look forward to mathematics lessons		
SQMS-01i	ASBM01I	How much do you agree with these statements about learning mathematics? Mathematics is one of my favorite subjects		
SQMS-02a	ASBM02A	How much do you agree with these statements about your mathematics lessons? I know what my teacher expects me to do	ASBM02A	
SQMS-02b	ASBM02B	How much do you agree with these statements about your mathematics lessons? My teacher is easy to understand	ASBM02C	
SQMS-02c	ASBM02C	How much do you agree with these statements about your mathematics lessons? I am interested in what my teacher says	ASBM02D	
SQMS-02d	ASBM02D	How much do you agree with these statements about your mathematics lessons? My teacher gives me interesting things to do	ASBM02E	
SQMS-02e	ASBM02E	How much do you agree with these statements about your mathematics lessons? My teacher has clear answers to my questions		
SQMS-02f	ASBM02F	How much do you agree with these statements about your mathematics lessons? My teacher is good at explaining mathematics		
SQMS-02g	ASBM02G	How much do you agree with these statements about your mathematics lessons? My teacher lets me show what I have learned		
SQMS-02h	ASBM02H	How much do you agree with these statements about your mathematics lessons? My teacher does a variety of things to help us learn		
SQMS-02i	ASBM02I	How much do you agree with these statements about your mathematics lessons? My teacher tells me how to do better when I make a mistake		
SQMS-02j	ASBM02J	How much do you agree with these statements about your mathematics lessons? My teacher listens to what I have to say		
SQMS-03a	ASBM03A	How much do you agree with these statements about mathematics? I usually do well in mathematics	ASBM03A	
SQMS-03b	ASBM03B	How much do you agree with these statements about mathematics? Mathematics is harder for me than for many of my classmates	ASBM03B	

Exhibit S1.1: Index of International Background Variables for the TIMSS 2015 Student Questionnaire - Fourth Grade (Continued)

TIMSS 2015 Question Number	TIMSS 2015 Variable Name	TIMSS 2015 Variable Description (See questionnaire for full item text)	TIMSS 2011 Variable Name	Notes
SQMS-03c	ASBM03C	How much do you agree with these statements about mathematics? I am just not good at mathematics	ASBM03C	
SQMS-03d	ASBM03D	How much do you agree with these statements about mathematics? I learn things quickly in mathematics	ASBM03D	
SQMS-03e	ASBM03E	How much do you agree with these statements about mathematics? Mathematics makes me nervous		
SQMS-03f	ASBM03F	How much do you agree with these statements about mathematics? I am good at working out difficult mathematics problems	ASBM03E	
SQMS-03g	ASBM03G	How much do you agree with these statements about mathematics? My teacher tells me I am good at mathematics	ASBM03F	
SQMS-03h	ASBM03H	How much do you agree with these statements about mathematics? Mathematics is harder for me than any other subject	ASBM03G	
SQMS-03i	ASBM03I	How much do you agree with these statements about mathematics? Mathematics makes me confused		
SQMS-04a	ASBS04A	How much do you agree with these statements about learning science? I enjoy learning science	ASBS04A	
SQMS-04b	ASBS04B	How much do you agree with these statements about learning science? I wish I did not have to study science	ASBS04B	
SQMS-04c	ASBS04C	How much do you agree with these statements about learning science? Science is boring	ASBS04D	
SQMS-04d	ASBS04D	How much do you agree with these statements about learning science? I learn many interesting things in science	ASBS04E	
SQMS-04e	ASBS04E	How much do you agree with these statements about learning science? I like science	ASBS04F	
SQMS-04f	ASBS04F	How much do you agree with these statements about learning science? I look forward to learning science in school		
SQMS-04g	ASBS04G	How much do you agree with these statements about learning science? Science teaches me how things in the world work		
SQMS-04h	ASBS04H	How much do you agree with these statements about learning science? I like to do science experiments		
SQMS-04i	ASBS04I	How much do you agree with these statements about learning science? Science is one of my favorite subjects		
SQMS-05a	ASBS05A	How much do you agree with these statements about your science lessons? I know what my teacher expects me to do	ASBS05A	
SQMS-05b	ASBS05B	How much do you agree with these statements about your science lessons? My teacher is easy to understand	ASBS05C	
SQMS-05c	ASBS05C	How much do you agree with these statements about your science lessons? I am interested in what my teacher says	ASBS05D	
SQMS-05d	ASBS05D	How much do you agree with these statements about your science lessons? My teacher gives me interesting things to do	ASBS05E	
SQMS-05e	ASBS05E	How much do you agree with these statements about your science lessons? My teacher has clear answers to my questions		
SQMS-05f	ASBS05F	How much do you agree with these statements about your science lessons? My teacher is good at explaining science		
SQMS-05g	ASBS05G	How much do you agree with these statements about your science lessons? My teacher lets me show what I have learned		
SQMS-05h	ASBS05H	How much do you agree with these statements about your science lessons? My teacher does a variety of things to help us learn		
SQMS-05i	ASBS05I	How much do you agree with these statements about your science lessons? My teacher tells me how to do better when I make a mistake		
SQMS-05j	ASBS05J	How much do you agree with these statements about your science lessons? My teacher listens to what I have to say		
SQMS-06a	ASBS06A	How much do you agree with these statements about science? I usually do well in science	ASBS06A	

Exhibit S1.1: Index of International Background Variables for the TIMSS 2015 Student Questionnaire - Fourth Grade (Continued)

TIMSS 2015 Question Number	TIMSS 2015 Variable Name	TIMSS 2015 Variable Description (See questionnaire for full item text)	TIMSS 2011 Variable Name	Notes
SQMS-06b	ASBS06B	How much do you agree with these statements about science? Science is harder for me than for many of my classmates	ASBS06B	
SQMS-06c	ASBS06C	How much do you agree with these statements about science? I am just not good at science	ASBS06C	
SQMS-06d	ASBS06D	How much do you agree with these statements about science? I learn things quickly in science	ASBS06D	
SQMS-06e	ASBS06E	How much do you agree with these statements about science? My teacher tells me I am good at science	ASBS06E	
SQMS-06f	ASBS06F	How much do you agree with these statements about science? Science is harder for me than any other subject	ASBS06F	
SQMS-06g	ASBS06G	How much do you agree with these statements about science? Science makes me confused		



Identification Label

TRENDS IN INTERNATIONAL MATHEMATICS AND SCIENCE STUDY

Student Questionnaire

<Grade 4>

<TIMSS National Research Center Name>

<Address>



TIMSS & PIRLS
International Study Center
Lynch School of Education, Boston College

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Directions

In this booklet, you will find questions about you and what you think. For each question, you should choose the answer you think is best.

Let us take a few minutes to practice the kinds of questions you will answer in this booklet.

Example 1 is one kind of question you will find in this booklet.

Example 1

Do you go to school?

*Fill **one** circle only.*

Yes --

No --

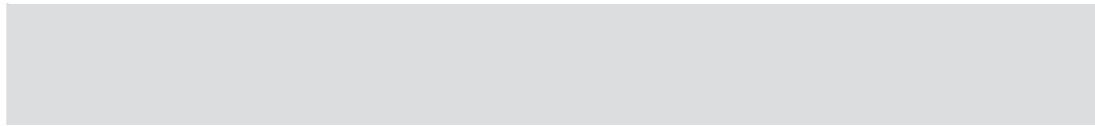
Example 2 is another kind of question you will find in this booklet.

Example 2

How often do you do these things?

*Fill **one** circle for each line.*

	Every day or almost every day	Once or twice a week	Once or twice a month	Never or almost never
a) I talk with my friends	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) I play sports	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) I ride a skateboard	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Example 3 is another kind of question you will find in this booklet.

Example 3

What do you think? Tell how much you agree with these statements.

Fill one circle for each line.

	Agree a lot	Agree a little	Disagree a little	Disagree a lot
a) Watching movies is fun	↓ ○	○	○	○
b) I like eating ice cream	○	○	○	○
c) I do not like waking up early	○	○	○	○
d) I enjoy doing chores	○	○	○	○

- Read each question carefully, and pick the answer you think is best.
- Fill in the circle next to or under your answer.
- If you decide to change your answer, draw an **X** through your first answer, like this: ~~○~~. Then, fill in the circle next to or under your new answer.
- Ask for help if you do not understand something or are not sure how to answer.

About you

G1

ASBG01

Are you a girl or a boy?

Fill one circle only.

Girl --

Boy --

G2

When were you born?

Fill the circles next to the month and year you were born.

ASBG02A

ASBG02B

a) Month

b) Year

January --

2002 --

February --

2003 --

March --

2004 --

April --

2005 --

May --

2006 --

June --

2007 --

July --

2008 --

August --

Other --

September --

October --

November --

December --

G3

ASBG03

How often do you speak <language of test> at home?*Fill one circle only.*

I always speak
<language of test> at home --

I almost always speak
<language of test> at home --

I sometimes speak <language
of test> and sometimes speak
another language at home --

I never speak <language
of test> at home --

<Grade 4> Student Questionnaire

4

G4

ASBG04

About how many books are there in your home? (Do not count magazines, newspapers, or your school books.)

Fill one circle only.

None or very few (0–10 books) --

This shows 10 books



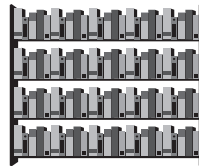
Enough to fill one shelf (11–25 books) --

This shows 25 books



Enough to fill one bookcase (26–100 books) --

This shows 100 books



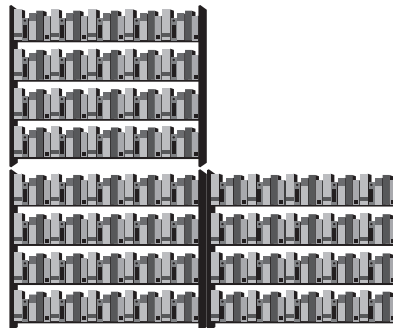
Enough to fill two bookcases (101–200 books) --

This shows 200 books



Enough to fill three or more bookcases (more than 200) --

This shows more than 200 books



G5

Do you have any of these things at your home?

Fill one circle for each line.

		Yes	No
		↓	↓
ASBG05A	a) A computer or tablet of your own ---	<input type="radio"/>	<input type="radio"/>
ASBG05B	b) A computer or tablet that is shared with other people at home -----	<input type="radio"/>	<input type="radio"/>
ASBG05C	c) Study desk/table for your use -----	<input type="radio"/>	<input type="radio"/>
ASBG05D	d) Your own room -----	<input type="radio"/>	<input type="radio"/>
ASBG05E	e) Internet connection -----	<input type="radio"/>	<input type="radio"/>
ASBG05F	f) Your own mobile phone -----	<input type="radio"/>	<input type="radio"/>
ASBG05G	g) A gaming system (e.g., PlayStation®, Wii®, XBox®) -----	<input type="radio"/>	<input type="radio"/>
ASBG05H	h) <country-specific indicator of wealth> -----	<input type="radio"/>	<input type="radio"/>
ASBG05I	i) <country-specific indicator of wealth> -----	<input type="radio"/>	<input type="radio"/>
ASBG05J	j) <country-specific indicator of wealth> -----	<input type="radio"/>	<input type="radio"/>
ASBG05K	k) <country-specific indicator of wealth> -----	<input type="radio"/>	<input type="radio"/>

G6

ASBG06A

A. Was your mother (or stepmother or female guardian) born in <country>?

Fill one circle only.

Yes --

No --

I don't know --

ASBG06B

B. Was your father (or stepfather or male guardian) born in <country>?

Fill one circle only.

Yes --

No --

I don't know --

G7

ASBG07

Were you born in <country>?

Fill one circle only.

Yes --

No --

G8

ASBG08

About how often are you absent from school?

Fill one circle only.

- Once a week or more --
- Once every two weeks --
- Once a month --
- Never or almost never --

G9

ASBG09

How often do you eat breakfast on school days?

Fill one circle only.

- Every day --
- Most days --
- Sometimes --
- Never or almost never --

G10

How often do you use a computer or tablet in each of these places for schoolwork (including classroom tasks, homework, studying outside of class)?

Fill one circle for each line.

- | | | Every day
or almost
every day | Once or
twice a
week | Once or
twice a
month | Never or
almost
never |
|---------|---------------------------|-------------------------------------|----------------------------|-----------------------------|-----------------------------|
| ASBG10A | a) At home | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ASBG10B | b) At school | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ASBG10C | c) Some other place | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Your School

G11

What do you think about your school? Tell how much you agree with these statements.

Fill one circle for each line.

		Agree a lot	Agree a little	Disagree a little	Disagree a lot
ASBG11A	a) I like being in school	↓ ○	↓ ○	↓ ○	↓ ○
ASBG11B	b) I feel safe when I am at school	○	○	○	○
ASBG11C	c) I feel like I belong at this school	○	○	○	○
ASBG11D	d) I like to see my classmates at school	○	○	○	○
ASBG11E	e) Teachers at my school are fair to me	○	○	○	○
ASBG11F	f) I am proud to go to this school	○	○	○	○
ASBG11G	g) I learn a lot in school	○	○	○	○

G12

During this school year, how often have other students from your school done any of the following things to you (including through texting or the Internet)?

Fill one circle for each line.

		At least once a week	Once or twice a month	A few times a year	Never
ASBG12A	a) Made fun of me or called me names	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ASBG12B	b) Left me out of their games or activities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ASBG12C	c) Spread lies about me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ASBG12D	d) Stole something from me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ASBG12E	e) Hit or hurt me (e.g., shoving, hitting, kicking)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ASBG12F	f) Made me do things I didn't want to do	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ASBG12G	g) Shared embarrassing information about me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ASBG12H	h) Threatened me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Mathematics in school

MS1

How much do you agree with these statements about learning mathematics?

Fill one circle for each line.

		Agree a lot	Agree a little	Disagree a little	Disagree a lot
ASBM01A	a) I enjoy learning mathematics -----	↓ ○	○	○	○
ASBM01B	b) I wish I did not have to study mathematics -----	○	○	○	○
ASBM01C	c) Mathematics is boring -----	○	○	○	○
ASBM01D	d) I learn many interesting things in mathematics -----	○	○	○	○
ASBM01E	e) I like mathematics -----	○	○	○	○
ASBM01F	f) I like any schoolwork that involves numbers -----	○	○	○	○
ASBM01G	g) I like to solve mathematics problems -----	○	○	○	○
ASBM01H	h) I look forward to mathematics lessons -----	○	○	○	○
ASBM01I	i) Mathematics is one of my favorite subjects -----	○	○	○	○

MS2

How much do you agree with these statements about your mathematics lessons?

Fill one circle for each line.

Agree a lot Agree a little Disagree a little Disagree a lot

ASBM02A	a) I know what my teacher expects me to do	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ASBM02B	b) My teacher is easy to understand ..	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ASBM02C	c) I am interested in what my teacher says	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ASBM02D	d) My teacher gives me interesting things to do	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ASBM02E	e) My teacher has clear answers to my questions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ASBM02F	f) My teacher is good at explaining mathematics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ASBM02G	g) My teacher lets me show what I have learned	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ASBM02H	h) My teacher does a variety of things to help us learn	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ASBM02I	i) My teacher tells me how to do better when I make a mistake	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ASBM02J	j) My teacher listens to what I have to say	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

MS3

How much do you agree with these statements about mathematics?

Fill one circle for each line.

Agree a lot Agree a little Disagree a little Disagree a lot

↓ ↓ ↓ ↓

○ ————— ○ ————— ○ ————— ○

ASBM03A a) I usually do well in mathematics --- ○ ————— ○ ————— ○ ————— ○

ASBM03B b) Mathematics is harder for me than for many of my classmates ---- ○ ————— ○ ————— ○ ————— ○

ASBM03C c) I am just not good at mathematics - ○ ————— ○ ————— ○ ————— ○

ASBM03D d) I learn things quickly in mathematics ○ ————— ○ ————— ○ ————— ○

ASBM03E e) Mathematics makes me nervous ---- ○ ————— ○ ————— ○ ————— ○

ASBM03F f) I am good at working out difficult mathematics problems ○ ————— ○ ————— ○ ————— ○

ASBM03G g) My teacher tells me I am good at mathematics ○ ————— ○ ————— ○ ————— ○

ASBM03H h) Mathematics is harder for me than any other subject ○ ————— ○ ————— ○ ————— ○

ASBM03I i) Mathematics makes me confused --- ○ ————— ○ ————— ○ ————— ○

Science in school

MS4

How much do you agree with these statements about learning science?

Fill *one* circle for each line.

		Agree a lot	Agree a little	Disagree a little	Disagree a lot
ASBS04A	a) I enjoy learning science	○	○	○	○
ASBS04B	b) I wish I did not have to study science	○	○	○	○
ASBS04C	c) Science is boring	○	○	○	○
ASBS04D	d) I learn many interesting things in science	○	○	○	○
ASBS04E	e) I like science	○	○	○	○
ASBS04F	f) I look forward to learning science in school	○	○	○	○
ASBS04G	g) Science teaches me how things in the world work	○	○	○	○
ASBS04H	h) I like to do science experiments ----	○	○	○	○
ASBS04I	i) Science is one of my favorite subjects	○	○	○	○

MS5

How much do you agree with these statements about your science lessons?

*Fill **one** circle for each line.*

Agree a lot Agree a little Disagree a little Disagree a lot

↓ ↓ ↓ ↓

○ ————— ○ ————— ○ ————— ○

ASBS05A a) I know what my teacher expects me to do

ASBS05B b) My teacher is easy to understand ..

ASBS05C c) I am interested in what my teacher says

ASBS05D d) My teacher gives me interesting things to do

ASBS05E e) My teacher has clear answers to my questions

ASBS05F f) My teacher is good at explaining science

ASBS05G g) My teacher lets me show what I have learned

ASBS05H h) My teacher does a variety of things to help us learn

ASBS05I i) My teacher tells me how to do better when I make a mistake

ASBS05J j) My teacher listens to what I have to say



Thank You!

Thank you for filling out the questionnaire!





BOSTON
COLLEGE

TIMSS
2015

TRENDS IN INTERNATIONAL MATHEMATICS AND SCIENCE STUDY

Student Questionnaire

<Grade 4>



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SECTION 2:
FOURTH GRADE -
HOME QUESTIONNAIRE
(EARLY LEARNING SURVEY)

TIMSS 2015 USER GUIDE FOR THE
INTERNATIONAL DATABASE



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Exhibit S1.2: Index of International Background Variables for the TIMSS 2015 Home Questionnaire - Fourth Grade

TIMSS 2015 Question Number	TIMSS 2015 Variable Name	TIMSS 2015 Variable Description (See questionnaire for full item text)	TIMSS 2011 Variable Name	Notes
HQ-01a	ASBH01A	This survey was completed by: Mother, stepmother, or female guardian	ASBH01A	
HQ-01b	ASBH01B	This survey was completed by: Father, stepfather, or male guardian	ASBH01B	
HQ-01c	ASBH01C	This survey was completed by: Other	ASBH01C	
HQ-02a	ASBH02A	Before your child began primary/elementary school, how often did you or someone else in your home do the following activities with him or her? Read books	ASBH02A	
HQ-02b	ASBH02B	Before your child began primary/elementary school, how often did you or someone else in your home do the following activities with him or her? Tell stories	ASBH02B	
HQ-02c	ASBH02C	Before your child began primary/elementary school, how often did you or someone else in your home do the following activities with him or her? Sing songs	ASBH02C	
HQ-02d	ASBH02D	Before your child began primary/elementary school, how often did you or someone else in your home do the following activities with him or her? Play with alphabet toys	ASBH02D	
HQ-02e	ASBH02E	Before your child began primary/elementary school, how often did you or someone else in your home do the following activities with him or her? Talk about things you had done	ASBH02E	
HQ-02f	ASBH02F	Before your child began primary/elementary school, how often did you or someone else in your home do the following activities with him or her? Talk about what you had read	ASBH02F	
HQ-02g	ASBH02G	Before your child began primary/elementary school, how often did you or someone else in your home do the following activities with him or her? Play word games	ASBH02G	
HQ-02h	ASBH02H	Before your child began primary/elementary school, how often did you or someone else in your home do the following activities with him or her? Write letters or words	ASBH02H	
HQ-02i	ASBH02I	Before your child began primary/elementary school, how often did you or someone else in your home do the following activities with him or her? Read aloud signs and labels	ASBH02I	
HQ-02j	ASBH02J	Before your child began primary/elementary school, how often did you or someone else in your home do the following activities with him or her? Say counting rhymes or sing counting songs	ASBH02J	
HQ-02k	ASBH02K	Before your child began primary/elementary school, how often did you or someone else in your home do the following activities with him or her? Play with number toys	ASBH02K	
HQ-02l	ASBH02L	Before your child began primary/elementary school, how often did you or someone else in your home do the following activities with him or her? Count different things	ASBH02L	
HQ-02m	ASBH02M	Before your child began primary/elementary school, how often did you or someone else in your home do the following activities with him or her? Play games involving shapes	ASBH02M	
HQ-02n	ASBH02N	Before your child began primary/elementary school, how often did you or someone else in your home do the following activities with him or her? Play with building blocks or construction toys	ASBH02N	
HQ-02o	ASBH02O	Before your child began primary/elementary school, how often did you or someone else in your home do the following activities with him or her? Play board or card games	ASBH02O	Modified wording in 2015
HQ-02p	ASBH02P	Before your child began primary/elementary school, how often did you or someone else in your home do the following activities with him or her? Write numbers		
HQ-03A	ASBH03A	Was your child born in <country of test>?		
HQ-03B	ASBH03B	How old was your child when he/she came to <country of test>?		

Exhibit S1.2: Index of International Background Variables for the TIMSS 2015 Home Questionnaire - Fourth Grade (Continued)

TIMSS 2015 Question Number	TIMSS 2015 Variable Name	TIMSS 2015 Variable Description (See questionnaire for full item text)	TIMSS 2011 Variable Name	Notes
HQ-04a	ASBH04A	What language did your child speak before he/she began school? <language of test>		
HQ-04b	ASBH04B	What language did your child speak before he/she began school? <country-specific>		
HQ-04c	ASBH04C	What language did your child speak before he/she began school? <country-specific>		
HQ-04d	ASBH04D	What language did your child speak before he/she began school? <country-specific>		
HQ-04e	ASBH04E	What language did your child speak before he/she began school? <country-specific>		
HQ-04f	ASBH04F	What language did your child speak before he/she began school? Other		
HQ-05Aa	ASBH05AA	Did your child attend the following before <first grade>? <Early childhood educational development—ISCED Level 0> program for children under 3		
HQ-05Ab	ASBH05AB	Did your child attend the following before <first grade>? <Pre-primary education—ISCED Level 0> program including <Kindergarten> for children age 3 or older		
HQ-05B	ASBH05B	Approximately, how long was your child in these programs altogether?	ASBH04B	Modified wording and response options in 2015
HQ-06	ASBH06	How old was your child when he/she began the <first grade> of primary/elementary school?	ASBH05	Modified wording in 2015
HQ-07a	ASBH07A	How well could your child do the following when he/she began the <first grade> of primary/elementary school? Recognize most of the letters of the alphabet	ASHB06A	Modified wording in 2015
HQ-07b	ASBH07B	How well could your child do the following when he/she began the <first grade> of primary/elementary school? Read some words	ASHB06B	Modified wording in 2015
HQ-07c	ASBH07C	How well could your child do the following when he/she began the <first grade> of primary/elementary school? Read sentences	ASHB06C	Modified wording in 2015
HQ-07d	ASBH07D	How well could your child do the following when he/she began the <first grade> of primary/elementary school? Read a story		
HQ-07e	ASBH07E	How well could your child do the following when he/she began the <first grade> of primary/elementary school? Write letters of the alphabet	ASHB06D	Modified wording in 2015
HQ-07f	ASBH07F	How well could your child do the following when he/she began the <first grade> of primary/elementary school? Write some words	ASHB06E	Modified wording in 2015
HQ-08a	ASBH08A	Could your child do the following when he/she began the <first grade> of primary/elementary school? Count by himself/herself	ASBH07A	Modified wording and response options in 2015
HQ-08b	ASBH08B	Could your child do the following when he/she began the <first grade> of primary/elementary school? Recognize written numbers		
HQ-08c	ASBH08C	Could your child do the following when he/she began the <first grade> of primary/elementary school? Write numbers		
HQ-08d	ASBH08D	Could your child do the following when he/she began the <first grade> of primary/elementary school? Do simple addition	ASBH07E	Modified wording in 2015
HQ-08e	ASBH08E	Could your child do the following when he/she began the <first grade> of primary/elementary school? Do simple subtraction	ASBH07F	Modified wording in 2015
HQ-08f	ASBH08F	Could your child do the following when he/she began the <first grade> of primary/elementary school? Count money		
HQ-08g	ASBH08G	Could your child do the following when he/she began the <first grade> of primary/elementary school? Measure lengths or heights		
HQ-09A	ASBH09A	Approximately, how often does your child do homework?		
HQ-09Ba	ASBH09BA	How often do you or someone else in your home do the following things? Ask if your child has done his/her homework	ASBH09E	Modified wording and response options in 2015

Exhibit S1.2: Index of International Background Variables for the TIMSS 2015 Home Questionnaire - Fourth Grade (Continued)

TIMSS 2015 Question Number	TIMSS 2015 Variable Name	TIMSS 2015 Variable Description (See questionnaire for full item text)	TIMSS 2011 Variable Name	Notes
HQ-09Bb	ASBH09BB	How often do you or someone else in your home do the following things? Help your child with homework	ASBH09B	Modified wording and response options in 2015
HQ-09Bc	ASBH09BC	How often do you or someone else in your home do the following things? Review your child's homework to make sure it is correct		
HQ-10Aa	ASBH10AA	During the last 12 months, has your child attended extra lessons or tutoring not provided by the school in the following subjects? Mathematics		
HQ-10Ab	ASBH10AB	During the last 12 months, has your child attended extra lessons or tutoring not provided by the school in the following subjects? Science		
HQ-10Ba	ASBH10BA	For how many of the last 12 months has your child attended extra lessons or tutoring? Mathematics		
HQ-10Bb	ASBH10BB	For how many of the last 12 months has your child attended extra lessons or tutoring? Science		
HQ-11a	ASBH11A	What do you think of your child's school? My child's school does a good job including me in my child's education	ASBH10A	Modified wording in 2015
HQ-11b	ASBH11B	What do you think of your child's school? My child's school provides a safe environment	ASBH10C	
HQ-11c	ASBH11C	What do you think of your child's school? My child's school cares about my child's progress in school	ASBH10D	
HQ-11d	ASBH11D	What do you think of your child's school? My child's school does a good job informing me of his/her progress		
HQ-11e	ASBH11E	What do you think of your child's school? My child's school promotes high academic standards		
HQ-11f	ASBH11F	What do you think of your child's school? My child's school does a good job in helping him/her become better in reading	ASBH10F	
HQ-11g	ASBH11G	What do you think of your child's school? My child's school does a good job in helping him/her become better in mathematics	ASBH10G	
HQ-11h	ASBH11H	What do you think of your child's school? My child's school does a good job in helping him/her become better in science	ASBH10H	
HQ-12	ASBH12	In a typical week, how much time do you usually spend reading for yourself at home, including books, magazines, newspapers, and materials for work (in print or digital media)?	ASBH11	Modified wording in 2015
HQ-13	ASBH13	About how many books are there in your home? (Do not count ebooks, magazines, newspapers, or children's books.)	ASBH14	Modified wording in 2015
HQ-14	ASBH14	About how many children's books are there in your home? (Do not count children's ebooks, magazines, or school books.)	ASBH15	Modified wording in 2015
HQ-15	ASBH15	How many digital information devices are there in your home? Count computers, tablets, smartphones, smart TVs, and e-readers.		
HQ-16a	ASBH16A	How much do you agree with these statements about mathematics and science? Most occupations need skills in math, science, or technology		
HQ-16b	ASBH16B	How much do you agree with these statements about mathematics and science? Science and technology can help solve the world's problems		
HQ-16c	ASBH16C	How much do you agree with these statements about mathematics and science? Science explains how things in the world work		
HQ-16d	ASBH16D	How much do you agree with these statements about mathematics and science? My child needs mathematics to get ahead in the world		
HQ-16e	ASBH16E	How much do you agree with these statements about mathematics and science? Learning science is for everyone		
HQ-16f	ASBH16F	How much do you agree with these statements about mathematics and science? Technology makes life easier		
HQ-16g	ASBH16G	How much do you agree with these statements about mathematics and science? Mathematics is applicable to real life		

Exhibit S1.2: Index of International Background Variables for the TIMSS 2015 Home Questionnaire - Fourth Grade (Continued)

TIMSS 2015 Question Number	TIMSS 2015 Variable Name	TIMSS 2015 Variable Description (See questionnaire for full item text)	TIMSS 2011 Variable Name	Notes
HQ-16h	ASBH16H	How much do you agree with these statements about mathematics and science? Engineering is necessary to design things that are safe and useful		
HQ-17A	ASBH17A	Was the child's father (or stepfather or male guardian) born in <country>?		
HQ-17B	ASBH17B	Was the child's mother (or stepmother or female guardian) born in <country>?		
HQ-18Aa	ASBH18AA	When talking at home with your child, what language does the child's father (or stepfather or male guardian) use? <language of test>		
HQ-18Ab	ASBH18AB	When talking at home with your child, what language does the child's mother (or stepmother or female guardian) use? <language of test>		
HQ-18Ba	ASBH18BA	When talking at home with your child, what language does the child's father (or stepfather or male guardian) use? <country-specific>		
HQ-18Bb	ASBH18BB	When talking at home with your child, what language does the child's mother (or stepmother or female guardian) use? <country-specific>		
HQ-18Ca	ASBH18CA	When talking at home with your child, what language does the child's father (or stepfather or male guardian) use? <country-specific>		
HQ-18Cb	ASBH18CB	When talking at home with your child, what language does the child's mother (or stepmother or female guardian) use? <country-specific>		
HQ-18Da	ASBH18DA	When talking at home with your child, what language does the child's father (or stepfather or male guardian) use? <country-specific>		
HQ-18Db	ASBH18DB	When talking at home with your child, what language does the child's mother (or stepmother or female guardian) use? <country-specific>		
HQ-18Ea	ASBH18EA	When talking at home with your child, what language does the child's father (or stepfather or male guardian) use? <country-specific>		
HQ-18Eb	ASBH18EB	When talking at home with your child, what language does the child's mother (or stepmother or female guardian) use? <country-specific>		
HQ-18Fa	ASBH18FA	When talking at home with your child, what language does the child's father (or stepfather or male guardian) use? Other		
HQ-18Fb	ASBH18FB	When talking at home with your child, what language does the child's mother (or stepmother or female guardian) use? Other		
HQ-18Ga	ASBH18GA	When talking at home with your child, what language does the child's father (or stepfather or male guardian) use? Not applicable		
HQ-18Gb	ASBH18GB	When talking at home with your child, what language does the child's mother (or stepmother or female guardian) use? Not applicable		
HQ-19	ASBH19	How often does your child speak <language of test> at home?		
HQ-20a	ASBH20A	What is the highest level of education completed by the child's father (or stepfather or male guardian) and mother (or stepmother or female guardian)? Child's father	ASBH17A	Modified response options in 2015
HQ-20b	ASBH20B	What is the highest level of education completed by the child's father (or stepfather or male guardian) and mother (or stepmother or female guardian)? Child's mother	ASBH17B	Modified response options in 2015
HQ-21	ASBH21	How far in his/her education do you expect your child to go?	ASBH18	Modified response options in 2015
HQ-22a	ASBH22A	Which best describes the employment situation of the child's father (or stepfather or male guardian) and mother (or stepmother or female guardian)? Child's father	ASBH19A	Modified response options in 2015
HQ-22b	ASBH22B	Which best describes the employment situation of the child's father (or stepfather or male guardian) and mother (or stepmother or female guardian)? Child's mother	ASBH19B	Modified response options in 2015
HQ-23a	ASBH23A	What kind of work do the child's father (or stepfather or male guardian) and mother (or stepmother or female guardian) do for their main jobs? Child's father	ASBH20A	
HQ-23b	ASBH23B	What kind of work do the child's father (or stepfather or male guardian) and mother (or stepmother or female guardian) do for their main jobs? Child's mother	ASBH20B	

Identification Label

TIMSS
2015

TRENDS IN INTERNATIONAL
MATHEMATICS AND SCIENCE STUDY

Early Learning Survey

<Grade 4>

<TIMSS National Research Center Name>

<Address>



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Early Learning Survey

Your child's class has been selected to participate in the Trends in Mathematics and Science Study (TIMSS). TIMSS is a research study about how children learn to do mathematics and science. The study is sponsored by the International Association for the Evaluation of Educational Achievement (IEA) and is being conducted in almost 60 countries around the world.

This survey asks about your child's early learning experiences. We are interested in what you and your child do together and what you think about different things related to your child's school. There are no right or wrong answers to these questions.

The information being collected will be extremely useful for helping understand how young children learn and for helping to improve the teaching and learning for all children. We ask that you respond to all of the questions you feel comfortable answering. We would like to reassure you, however, that your responses to this survey are confidential.

This survey should be completed by the child's parent or current <primary caregiver>, or jointly by both parents or <primary caregivers>.

TIMSS 2015

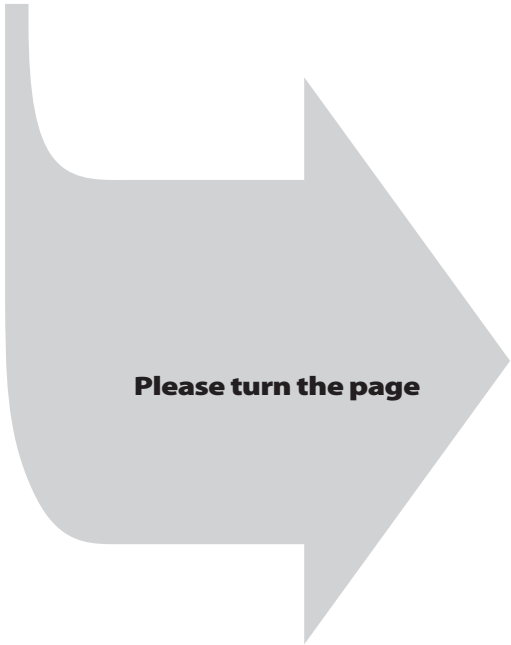


1 _____

This survey was completed by:

*Check **one** circle for each line.*

		Yes	No
ASBH01A	Mother, stepmother, or female guardian -----	<input type="radio"/>	<input type="radio"/>
ASBH01B	Father, stepfather, or male guardian -----	<input type="radio"/>	<input type="radio"/>
ASBH01C	Other -----	<input type="radio"/>	<input type="radio"/>



**Before Your Child Began
Primary/Elementary School**

2

Before your child began primary/elementary school, how often did you or someone else in your home do the following activities with him or her?

Check **one** circle for each line.

		Often	Sometimes	Never or almost never
ASBH02A	a) Read books -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ASBH02B	b) Tell stories -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ASBH02C	c) Sing songs -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ASBH02D	d) Play with alphabet toys (e.g., blocks with letters of the alphabet) -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ASBH02E	e) Talk about things you had done -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ASBH02F	f) Talk about what you had read -	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ASBH02G	g) Play word games -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ASBH02H	h) Write letters or words -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ASBH02I	i) Read aloud signs and labels ---	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ASBH02J	j) Say counting rhymes or sing counting songs -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ASBH02K	k) Play with number toys (e.g., blocks with numbers) ---	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ASBH02L	l) Count different things -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ASBH02M	m) Play games involving shapes (e.g., shape sorting toys, puzzles) -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ASBH02N	n) Play with building blocks or construction toys -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ASBH02O	o) Play board or card games -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ASBH02P	p) Write numbers -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



3

ASBH03A

A. Was your child born in <country of test>?

Check **one** circle only.

Yes---

No--- (If Yes, go to #4)

ASBH03B

If No,

B. How old was your child when he/she came to <country of test>?

Check **one** circle only.

Younger than 3 years old---

3 to 5 years old---

6 to 7 years old---

8 years old or older---

4

What language did your child speak before he/she began school?

If your child spoke more than one language check "Yes" for more than one language.

Check **one** circle for each line.

ASBH04A

a) <language of test> -----

ASBH04B

b) <country-specific> -----

ASBH04C

c) <country-specific> -----

ASBH04D

d) <country-specific> -----

ASBH04E

e) <country-specific> -----

ASBH04F

f) Other -----



5

A. Did your child attend the following before <first grade>?

Check **one** circle for each line.

- | | | Yes | No |
|----------|---|-----------------------|-----------------------|
| ASBH05AA | a) <Early childhood educational development—ISCED Level 0> program for children under 3 ----- | <input type="radio"/> | <input type="radio"/> |
| ASBH05AB | b) <Pre-primary education—ISCED Level 0> program including <Kindergarten> for children age 3 or older ----- | <input type="radio"/> | <input type="radio"/> |

ASBH05B **B. Approximately, how long was your child in these programs altogether?**

Check **one** circle only.

- Did not attend ---
- Less than 1 year ---
- 1 year ---
- 2 years ---
- 3 years ---
- 4 years or more ---

**Beginning Primary/
Elementary School**

6

ASBH06

How old was your child when he/she began the <first grade> of primary/elementary school?

Check **one** circle only.

- 5 years old or younger ---
- 6 years old ---
- 7 years old ---
- 8 years old or older ---

7

How well could your child do the following when he/she began the <first grade> of primary/elementary school?

Check **one** circle for each line.

- | | | Very well | Moderately well | Not very well | Not at all |
|---------|--|-----------------------|-----------------------|-----------------------|-----------------------|
| ASBH07A | a) Recognize most of the letters of the alphabet ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ASBH07B | b) Read some words ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ASBH07C | c) Read sentences ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ASBH07D | d) Read a story ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ASBH07E | e) Write letters of the alphabet ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ASBH07F | f) Write some words ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |



8

Could your child do the following when he/she began the <first grade> of primary/elementary school?

Check **one** circle for each line.

		Not at all Up to 10 Up to 20 Up to 100 or higher
ASBH08A	a) Count by himself/herself -----	<input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/>
ASBH08B	b) Recognize written numbers -----	<input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/>
ASBH08C	c) Write numbers -----	<input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/>
		Yes No
ASBH08D	d) Do simple addition -----	<input type="radio"/> — <input type="radio"/>
ASBH08E	e) Do simple subtraction -----	<input type="radio"/> — <input type="radio"/>
ASBH08F	f) Count money -----	<input type="radio"/> — <input type="radio"/>
ASBH08G	g) Measure lengths or heights ---	<input type="radio"/> — <input type="radio"/>


Studying Outside of School

9

ASBH09A

A. Approximately, how often does your child do homework?

Check **one** circle only.

- My child does not have homework to do --- 
 (If your child does not have homework, go to #10)
- Every day ---
- 3 or 4 times a week ---
- 1 or 2 times a week ---
- Less than once a week ---

B. How often do you or someone else in your home do the following things?

Check **one** circle for each line.

- | | | | | | | | | |
|----------|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|--|--|
| | | Every day | | | | | | |
| | | | 3 or 4 times a week | | | | | |
| | | | | 1 or 2 times a week | | | | |
| | | | | | Less than once a week | | | |
| | | | | | | Never or almost never | | |
| ASBH09BA | a) Ask if your child has done his/her homework ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | | |
| ASBH09BB | b) Help your child with homework ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | | |
| ASBH09BC | c) Review your child's homework to make sure it is correct ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | | |

Your Child's School

11

What do you think of your child's school?

Check **one** circle for each line.

		Agree a lot	Agree a little	Disagree a little	Disagree a lot
ASBH11A	a) My child's school does a good job including me in my child's education -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ASBH11B	b) My child's school provides a safe environment -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ASBH11C	c) My child's school cares about my child's progress in school -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ASBH11D	d) My child's school does a good job informing me of his/her progress -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ASBH11E	e) My child's school promotes high academic standards -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ASBH11F	f) My child's school does a good job in helping him/her become better in <u>reading</u> -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ASBH11G	g) My child's school does a good job in helping him/her become better in <u>mathematics</u> -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ASBH11H	h) My child's school does a good job in helping him/her become better in <u>science</u> -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Additional Information

12

ASBH12

In a typical week, how much time do you usually spend reading for yourself at home, including books, magazines, newspapers, and materials for work (in print or digital media)?

Check one circle only.

Less than one hour a week ---

1–5 hours a week ---

6–10 hours a week ---

More than 10 hours a week ---

13

ASBH13

About how many books are there in your home? (Do not count ebooks, magazines, newspapers, or children’s books.)

Check one circle only.

0–10 ---

11–25 ---

26–100 ---

101–200 ---

More than 200 ---

14

ASBH14

About how many children’s books are there in your home? (Do not count children’s ebooks, magazines, or school books.)

Check one circle only.

0–10 ---

11–25 ---

26–50 ---

51–100 ---

More than 100 ---



15

ASBH15

How many digital information devices are there in your home? Count computers, tablets, smartphones, smart TVs, and e-readers. (Do not count other devices.)

Check **one** circle only.

- None ---
- 1-3 devices ---
- 4-6 devices ---
- 7-10 devices ---
- More than 10 devices ---

16

How much do you agree with these statements about mathematics and science?

Check **one** circle for each line.

ASBH16A

a) Most occupations need skills in math, science, or technology -----

Agree a lot
Agree a little
Disagree a little
Disagree a lot

— — —

ASBH16B

b) Science and technology can help solve the world's problems -----

— — —

ASBH16C

c) Science explains how things in the world work -----

— — —

ASBH16D

d) My child needs mathematics to get ahead in the world -----

— — —

ASBH16E

e) Learning science is for everyone -----

— — —

ASBH16F

f) Technology makes life easier --

— — —

ASBH16G

g) Mathematics is applicable to real life -----

— — —

ASBH16H

h) Engineering is necessary to design things that are safe and useful -----

— — —



17

ASBH17A **A. Was the child's father (or stepfather or male guardian) born in <country>?**

Check **one** circle only.

Yes---

No---

ASBH17B **B. Was the child's mother (or stepmother or female guardian) born in <country>?**

Check **one** circle only.

Yes---

No---

18

When talking at home with your child, what language does the child's father (or stepfather or male guardian) use? What language does the child's mother (or stepmother or female guardian) use?

Check **all** that apply.

		Child's father	Child's mother	
ASBH18AA	a) <language of test> -----	<input type="radio"/>	<input type="radio"/>	ASBH18AB
ASBH18BA	b) <country-specific> -----	<input type="radio"/>	<input type="radio"/>	ASBH18BB
ASBH18CA	c) <country-specific> -----	<input type="radio"/>	<input type="radio"/>	ASBH18CB
ASBH18DA	d) <country-specific> -----	<input type="radio"/>	<input type="radio"/>	ASBH18DB
ASBH18EA	e) <country-specific> -----	<input type="radio"/>	<input type="radio"/>	ASBH18EB
ASBH18FA	f) Other -----	<input type="radio"/>	<input type="radio"/>	ASBH18FB
ASBH18GA	g) Not applicable -----	<input type="radio"/>	<input type="radio"/>	ASBH18GB

19

ASBH19 **How often does your child speak <language of test> at home?**

Check **one** circle only.

Always---

Almost always---

Sometimes---

Never---



20

What is the highest level of education completed by the child's father (or stepfather or male guardian) and mother (or stepmother or female guardian)?

ASBH20A
ASBH20B

Check **one** circle in each column.

	Child's father	Child's mother
a) Did not go to school -----	<input type="radio"/>	<input type="radio"/>
b) Some <Primary education— ISCED Level 1 or Lower secondary education—ISCED Level 2> -----	<input type="radio"/>	<input type="radio"/>
c) <Lower secondary education— ISCED Level 2> -----	<input type="radio"/>	<input type="radio"/>
d) <Upper secondary education— ISCED Level 3> -----	<input type="radio"/>	<input type="radio"/>
e) <Post-secondary, non-tertiary education—ISCED Level 4> -----	<input type="radio"/>	<input type="radio"/>
f) <Short-cycle tertiary education—ISCED Level 5> -----	<input type="radio"/>	<input type="radio"/>
g) <Bachelor's or equivalent level—ISCED Level 6> -----	<input type="radio"/>	<input type="radio"/>
h) <Postgraduate degree: Master's—ISCED Level 7 or Doctor—ISCED Level 8> -----	<input type="radio"/>	<input type="radio"/>
i) Not applicable -----	<input type="radio"/>	<input type="radio"/>

21

ASBH21

How far in his/her education do you expect your child to go?

Check **one** circle only.

Finish <Lower secondary
education—ISCED Level 2> ---

Finish <Upper secondary
education—ISCED Level 3> ---

Finish <Post-secondary, non-tertiary
education—ISCED Level 4> ---

Finish <Short-cycle tertiary
education—ISCED Level 5> ---

Finish <Bachelor's or equivalent
level—ISCED Level 6> ---

Finish <Postgraduate degree:
Master's—ISCED Level 7
or Doctor—ISCED Level 8> ---



22

Which best describes the employment situation of the child's father (or stepfather or male guardian) and mother (or stepmother or female guardian)?

ASBH22A
ASBH22B

Check **one** circle in each column.

	Child's father	Child's mother
a) Working at least full-time for pay (this could be one or more full-time jobs or several part-time jobs that add up to full-time work) -----	<input type="radio"/>	<input type="radio"/>
b) Working only part-time for pay -----	<input type="radio"/>	<input type="radio"/>
c) Not working for pay -----	<input type="radio"/>	<input type="radio"/>
d) Other -----	<input type="radio"/>	<input type="radio"/>
e) Not applicable -----	<input type="radio"/>	<input type="radio"/>

23

What kind of work do the child's father (or stepfather or male guardian) and mother (or stepmother or female guardian) do for their main jobs?

For each, check the circle for the job category that best describes what he/she does (opposite page). Each category has a few examples to help you decide the correct category. If the father or mother is not working now, think about the last job he/she had.

23 (continued)

Check **one** circle in each column.

ASBH23A
ASBH23B

	Child's father	Child's mother
a) Has never worked for pay -----	<input type="radio"/>	<input type="radio"/>
b) Small Business Owner ----- Includes owners of small businesses (fewer than 25 employees) such as retail shops, services, restaurants	<input type="radio"/>	<input type="radio"/>
c) Clerk ----- Includes office clerks; secretaries; typists; data entry operators; customer service clerks	<input type="radio"/>	<input type="radio"/>
d) Service or Sales Worker ----- Includes travel attendants; restaurant service workers; personal care workers; protective service workers; junior military and police; salespersons; street vendors	<input type="radio"/>	<input type="radio"/>
e) Skilled Agricultural or Fishery Worker ----- Includes farmers; forestry workers; fishery workers; hunters and trappers	<input type="radio"/>	<input type="radio"/>
f) Craft or Trade Worker ----- Includes builders, carpenters, plumbers, electricians, metal workers; machine mechanics; handicraft workers	<input type="radio"/>	<input type="radio"/>
g) Plant or Machine Operator ----- Includes plant and machine operators; assembly-line operators; motor-vehicle drivers	<input type="radio"/>	<input type="radio"/>
h) General Laborers ----- Includes domestic helpers and cleaners; building caretakers; messengers, porters, and doorkeepers; farm, fishery, agricultural, and construction workers	<input type="radio"/>	<input type="radio"/>
i) Corporate Manager or Senior Official ----- Includes corporate managers such as managers of large companies (25 or more employees) or managers of departments within large companies; legislators or senior government officials; senior officials of special-interest organizations; military officers	<input type="radio"/>	<input type="radio"/>
j) Professional ----- Includes scientists; mathematicians; computer scientists; architects; engineers; life science and health professionals; teachers; legal professionals; social scientists; writers and artists; religious professionals	<input type="radio"/>	<input type="radio"/>
k) Technician or Associate Professional ----- Includes science, engineering, and computer associates and technicians; life science and health technicians and assistants; teacher aides; finance and sales associate professionals; business service agents; administrative assistants	<input type="radio"/>	<input type="radio"/>
l) Not applicable -----	<input type="radio"/>	<input type="radio"/>

Thank You

Thank you for taking the time
to fill out this survey.





BOSTON
COLLEGE

TIMSS
2015

TRENDS IN INTERNATIONAL
MATHEMATICS AND SCIENCE STUDY

Early Learning Survey

<Grade 4>



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Lynch School of Education, Boston College

TIMSS
2015

SECTION 3:
FOURTH GRADE –
TEACHER
QUESTIONNAIRE

TIMSS 2015 USER GUIDE FOR THE
INTERNATIONAL DATABASE



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Exhibit S1.3: Index of International Background Variables for the TIMSS 2015 Teacher Questionnaire - Fourth Grade

TIMSS 2015 Question Number	TIMSS 2015 Variable Name	TIMSS 2015 Variable Description (See questionnaire for full item text)	TIMSS 2011 Variable Name	Notes
TQG-01	ATBG01	By the end of this school year, how many years will you have been teaching altogether?	ATBG01	
TQG-02	ATBG02	Are you female or male?	ATBG02	
TQG-03	ATBG03	How old are you?	ATBG03	
TQG-04	ATBG04	What is the highest level of formal education you have completed?	ATBG04	Modified response options in 2015
TQG-05Aa	ATBG05AA	During your <post-secondary> education, what was your major or main area(s) of study? Education—Primary/Elementary	ATBG05AA	
TQG-05Ab	ATBG05AB	During your <post-secondary> education, what was your major or main area(s) of study? Education—Secondary	ATBG05AB	
TQG-05Ac	ATBG05AC	During your <post-secondary> education, what was your major or main area(s) of study? Mathematics	ATBG05AC	
TQG-05Ad	ATBG05AD	During your <post-secondary> education, what was your major or main area(s) of study? Science	ATBG05AD	
TQG-05Ae	ATBG05AE	During your <post-secondary> education, what was your major or main area(s) of study? <language of test>	ATBG05AE	
TQG-05Af	ATBG05AF	During your <post-secondary> education, what was your major or main area(s) of study? Other	ATBG05AF	
TQG-05Ba	ATBG05BA	If your major or main area of study was education, did you have a <specialization> in any of the following? Mathematics	ATBG05BA	
TQG-05Bb	ATBG05BB	If your major or main area of study was education, did you have a <specialization> in any of the following? Science	ATBG05BB	
TQG-05Bc	ATBG05BC	If your major or main area of study was education, did you have a <specialization> in any of the following? Language/reading	ATBG05BC	
TQG-05Bd	ATBG05BD	If your major or main area of study was education, did you have a <specialization> in any of the following? Other subject	ATBG05BD	
TQG-06a	ATBG06A	How would you characterize each of the following within your school? Teachers' understanding of the school's curricular goals	ATBG06B	
TQG-06b	ATBG06B	How would you characterize each of the following within your school? Teachers' degree of success in implementing the school's curriculum	ATBG06C	
TQG-06c	ATBG06C	How would you characterize each of the following within your school? Teachers' expectations for student achievement	ATBG06D	
TQG-06d	ATBG06D	How would you characterize each of the following within your school? Teachers working together to improve student achievement		
TQG-06e	ATBG06E	How would you characterize each of the following within your school? Teachers' ability to inspire students		
TQG-06f	ATBG06F	How would you characterize each of the following within your school? Parental involvement in school activities	ATBG06F	
TQG-06g	ATBG06G	How would you characterize each of the following within your school? Parental commitment to ensure that students are ready to learn		
TQG-06h	ATBG06H	How would you characterize each of the following within your school? Parental expectations for student achievement		
TQG-06i	ATBG06I	How would you characterize each of the following within your school? Parental support for student achievement	ATBG06E	
TQG-06j	ATBG06J	How would you characterize each of the following within your school? Parental pressure for the school to maintain high academic standards		
TQG-06k	ATBG06K	How would you characterize each of the following within your school? Students' desire to do well in school	ATBG06H	
TQG-06l	ATBG06L	How would you characterize each of the following within your school? Students' ability to reach school's academic goals		
TQG-06m	ATBG06M	How would you characterize each of the following within your school? Students' respect for classmates who excel in school		

Exhibit S1.3: Index of International Background Variables for the TIMSS 2015 Teacher Questionnaire - Fourth Grade (Continued)

TIMSS 2015 Question Number	TIMSS 2015 Variable Name	TIMSS 2015 Variable Description (See questionnaire for full item text)	TIMSS 2011 Variable Name	Notes
TQG-06n	ATBG06N	How would you characterize each of the following within your school? Clarity of the school's educational objectives		
TQG-06o	ATBG06O	How would you characterize each of the following within your school? Collaboration between school leadership and teachers to plan instruction		
TQG-06p	ATBG06P	How would you characterize each of the following within your school? Amount of instructional support provided to teachers by school leadership		
TQG-06q	ATBG06Q	How would you characterize each of the following within your school? School leadership's support for teachers' professional development		
TQG-07a	ATBG07A	Thinking about your current school, indicate the extent to which you agree or disagree with each of the following statements. This school is located in a safe neighborhood	ATBG07A	
TQG-07b	ATBG07B	Thinking about your current school, indicate the extent to which you agree or disagree with each of the following statements. I feel safe at this school	ATBG07B	
TQG-07c	ATBG07C	Thinking about your current school, indicate the extent to which you agree or disagree with each of the following statements. This school's security policies and practices are sufficient	ATBG07C	
TQG-07d	ATBG07D	Thinking about your current school, indicate the extent to which you agree or disagree with each of the following statements. The students behave in an orderly manner	ATBG07D	
TQG-07e	ATBG07E	Thinking about your current school, indicate the extent to which you agree or disagree with each of the following statements. The students are respectful of the teachers	ATBG07E	
TQG-07f	ATBG07F	Thinking about your current school, indicate the extent to which you agree or disagree with each of the following statements. The students respect school property		
TQG-07g	ATBG07G	Thinking about your current school, indicate the extent to which you agree or disagree with each of the following statements. This school has clear rules about student conduct		
TQG-07h	ATBG07H	Thinking about your current school, indicate the extent to which you agree or disagree with each of the following statements. This school's rules are enforced in a fair and consistent manner		
TQG-08a	ATBG08A	In your current school, how severe is each problem? The school building needs significant repair	ATBG08A	
TQG-08b	ATBG08B	In your current school, how severe is each problem? Teachers do not have adequate workspace	ATBG08D	
TQG-08c	ATBG08C	In your current school, how severe is each problem? Teachers do not have adequate instructional materials and supplies	ATBG08E	
TQG-08d	ATBG08D	In your current school, how severe is each problem? The school classrooms are not cleaned often enough		
TQG-08e	ATBG08E	In your current school, how severe is each problem? The school classrooms need maintenance work		
TQG-08f	ATBG08F	In your current school, how severe is each problem? Teachers do not have adequate technological resources		
TQG-08g	ATBG08G	In your current school, how severe is each problem? Teachers do not have adequate support for using technology		
TQG-09a	ATBG09A	How often do you have the following types of interactions with other teachers? Discuss how to teach a particular topic		
TQG-09b	ATBG09B	How often do you have the following types of interactions with other teachers? Collaborate in planning and preparing instructional materials		
TQG-09c	ATBG09C	How often do you have the following types of interactions with other teachers? Share what I have learned about my teaching experiences		
TQG-09d	ATBG09D	How often do you have the following types of interactions with other teachers? Visit another classroom to learn more about teaching		

Exhibit S1.3: Index of International Background Variables for the TIMSS 2015 Teacher Questionnaire - Fourth Grade (Continued)

TIMSS 2015 Question Number	TIMSS 2015 Variable Name	TIMSS 2015 Variable Description (See questionnaire for full item text)	TIMSS 2011 Variable Name	Notes
TQG-09e	ATBG09E	How often do you have the following types of interactions with other teachers? Work together to try out new ideas		
TQG-09f	ATBG09F	How often do you have the following types of interactions with other teachers? Work as a group on implementing the curriculum		
TQG-09g	ATBG09G	How often do you have the following types of interactions with other teachers? Work with teachers from other grades to ensure continuity in learning		
TQG-10a	ATBG10A	How often do you feel the following way about being a teacher? I am content with my profession as a teacher		
TQG-10b	ATBG10B	How often do you feel the following way about being a teacher? I am satisfied with being a teacher at this school		
TQG-10c	ATBG10C	How often do you feel the following way about being a teacher? I find my work full of meaning and purpose		
TQG-10d	ATBG10D	How often do you feel the following way about being a teacher? I am enthusiastic about my job		
TQG-10e	ATBG10E	How often do you feel the following way about being a teacher? My work inspires me		
TQG-10f	ATBG10F	How often do you feel the following way about being a teacher? I am proud of the work I do		
TQG-10g	ATBG10G	How often do you feel the following way about being a teacher? I am going to continue teaching for as long as I can		
TQG-11a	ATBG11A	Indicate the extent to which you agree or disagree with each of the following statements. There are too many students in the classes		
TQG-11b	ATBG11B	Indicate the extent to which you agree or disagree with each of the following statements. I have too much material to cover in class		
TQG-11c	ATBG11C	Indicate the extent to which you agree or disagree with each of the following statements. I have too many teaching hours		
TQG-11d	ATBG11D	Indicate the extent to which you agree or disagree with each of the following statements. I need more time to prepare for class		
TQG-11e	ATBG11E	Indicate the extent to which you agree or disagree with each of the following statements. I need more time to assist individual students		
TQG-11f	ATBG11F	Indicate the extent to which you agree or disagree with each of the following statements. I feel too much pressure from parents		
TQG-11g	ATBG11G	Indicate the extent to which you agree or disagree with each of the following statements. I have difficulty keeping up with all of the changes to the curriculum		
TQG-11h	ATBG11H	Indicate the extent to which you agree or disagree with each of the following statements. I have too many administrative tasks		
TQG-12A	ATBG12A	How many students are in this class?	ATBG12A	
TQG-12B	ATBG12B	How many of the students in #G12A are in <fourth grade>?	ATBG12B	
TQG-13	ATBG13	How many <fourth grade> students experience difficulties understanding spoken <language of test>?	ATBG13	
TQG-14a	ATBG14A	How often do you do the following in teaching this class? Relate the lesson to students' daily lives	ATBG15B	
TQG-14b	ATBG14B	How often do you do the following in teaching this class? Ask students to explain their answers		
TQG-14c	ATBG14C	How often do you do the following in teaching this class? Bring interesting materials to class	ATBG15F	
TQG-14d	ATBG14D	How often do you do the following in teaching this class? Ask students to complete challenging exercises that require them to go beyond the instruction		
TQG-14e	ATBG14E	How often do you do the following in teaching this class? Encourage classroom discussions among students		
TQG-14f	ATBG14F	How often do you do the following in teaching this class? Link new content to students' prior knowledge		

Exhibit S1.3: Index of International Background Variables for the TIMSS 2015 Teacher Questionnaire - Fourth Grade (Continued)

TIMSS 2015 Question Number	TIMSS 2015 Variable Name	TIMSS 2015 Variable Description (See questionnaire for full item text)	TIMSS 2011 Variable Name	Notes
TQG-14g	ATBG14G	How often do you do the following in teaching this class? Ask students to decide their own problem solving procedures		
TQG-14h	ATBG14H	How often do you do the following in teaching this class? Encourage students to express their ideas in class		
TQG-15a	ATBG15A	In your view, to what extent do the following limit how you teach this class? Students lacking prerequisite knowledge or skills	ATBG16A	Modified response options in 2015
TQG-15b	ATBG15B	In your view, to what extent do the following limit how you teach this class? Students suffering from lack of basic nutrition	ATBG16B	Modified response options in 2015
TQG-15c	ATBG15C	In your view, to what extent do the following limit how you teach this class? Students suffering from not enough sleep	ATBG16C	Modified response options in 2015
TQG-15d	ATBG15D	In your view, to what extent do the following limit how you teach this class? Disruptive students	ATBG16E	Modified response options in 2015
TQG-15e	ATBG15E	In your view, to what extent do the following limit how you teach this class? Uninterested students	ATBG16F	Modified response options in 2015
TQG-15f	ATBG15F	In your view, to what extent do the following limit how you teach this class? Students with physical disabilities	ATBG16D	Modified wording and response options in 2015
TQG-15g	ATBG15G	In your view, to what extent do the following limit how you teach this class? Students with mental, emotional, or psychological disabilities	ATBG16D	Modified wording and response options in 2015
TQM-01	ATBM01	In a typical week, how much time do you spend teaching mathematics to the students in this class? (minutes)	ATBM01A ATBM01B	Hours and minutes separate variables in 2011
TQM-02a	ATBM02A	In teaching mathematics to this class, how would you characterize your confidence in doing the following? Inspiring students to learn mathematics		
TQM-02b	ATBM02B	In teaching mathematics to this class, how would you characterize your confidence in doing the following? Showing students a variety of problem solving strategies		
TQM-02c	ATBM02C	In teaching mathematics to this class, how would you characterize your confidence in doing the following? Providing challenging tasks for the highest achieving students		
TQM-02d	ATBM02D	In teaching mathematics to this class, how would you characterize your confidence in doing the following? Adapting my teaching to engage students' interest		
TQM-02e	ATBM02E	In teaching mathematics to this class, how would you characterize your confidence in doing the following? Helping students appreciate the value of learning mathematics		
TQM-02f	ATBM02F	In teaching mathematics to this class, how would you characterize your confidence in doing the following? Assessing student comprehension of mathematics		
TQM-02g	ATBM02G	In teaching mathematics to this class, how would you characterize your confidence in doing the following? Improving the understanding of struggling students		
TQM-02h	ATBM02H	In teaching mathematics to this class, how would you characterize your confidence in doing the following? Making mathematics relevant to students		
TQM-02i	ATBM02I	In teaching mathematics to this class, how would you characterize your confidence in doing the following? Developing students' higher-order thinking skills		
TQM-03a	ATBM03A	In teaching mathematics to this class, how often do you ask students to do the following? Listen to me explain new mathematics content		
TQM-03b	ATBM03B	In teaching mathematics to this class, how often do you ask students to do the following? Listen to me explain how to solve problems	ATBM03A	Modified wording in 2015

Exhibit S1.3: Index of International Background Variables for the TIMSS 2015 Teacher Questionnaire - Fourth Grade (Continued)

TIMSS 2015 Question Number	TIMSS 2015 Variable Name	TIMSS 2015 Variable Description (See questionnaire for full item text)	TIMSS 2011 Variable Name	Notes
TQM-03c	ATBM03C	In teaching mathematics to this class, how often do you ask students to do the following? Memorize rules, procedures, and facts	ATBM03B	Modified wording in 2015
TQM-03d	ATBM03D	In teaching mathematics to this class, how often do you ask students to do the following? Work problems with my guidance	ATBM03C	Modified wording in 2015
TQM-03e	ATBM03E	In teaching mathematics to this class, how often do you ask students to do the following? Work problems together in the whole class with direct guidance from me	ATBM03D	Modified wording in 2015
TQM-03f	ATBM03F	In teaching mathematics to this class, how often do you ask students to do the following? Work problems while I am occupied by other tasks	ATBM03E	Modified wording in 2015
TQM-03g	ATBM03G	In teaching mathematics to this class, how often do you ask students to do the following? Take a written test or quiz	ATBM03H	Modified wording in 2015
TQM-03h	ATBM03H	In teaching mathematics to this class, how often do you ask students to do the following? Work in mixed ability groups		
TQM-03i	ATBM03I	In teaching mathematics to this class, how often do you ask students to do the following? Work in same ability groups		
TQM-04	ATBM04	Are the students in this class permitted to use calculators during mathematics lessons?	ATBM05	
TQM-05A	ATBM05A	Do the students in this class have computers (including tablets) available to use during their mathematics lessons?	ATBM06A	Modified wording in 2015
TQM-05Ba	ATBM05BA	What access do the students have to computers? Each student has a computer		
TQM-05Bb	ATBM05BB	What access do the students have to computers? The class has computers that students can share		
TQM-05Bc	ATBM05BC	What access do the students have to computers? The school has computers that the class can use sometimes		
TQM-05Ca	ATBM05CA	How often do you have the students do the following activities on computers during mathematics lessons? Explore mathematics principles and concepts	ATBM06CA	Modified wording in 2015
TQM-05Cb	ATBM05CB	How often do you have the students do the following activities on computers during mathematics lessons? Practice skills and procedures	ATBM06CB	Modified wording in 2015
TQM-05Cc	ATBM05CC	How often do you have the students do the following activities on computers during mathematics lessons? Look up ideas and information	ATBM06CC	Modified wording in 2015
TQM-06Aa	ATBM06AA	When students in this class have been taught each of the following mathematics topics. Number: Concepts of whole numbers, including place value and ordering	See Question TQM-07 in 2011 for sub-topics.	
TQM-06Ab	ATBM06AB	When students in this class have been taught each of the following mathematics topics. Number: Adding, subtracting, multiplying, and/or dividing with whole numbers	See Question TQM-07 in 2011 for sub-topics.	
TQM-06Ac	ATBM06AC	When students in this class have been taught each of the following mathematics topics. Number: Concepts of multiples and factors; odd and even numbers	See Question TQM-07 in 2011 for sub-topics.	
TQM-06Ad	ATBM06AD	When students in this class have been taught each of the following mathematics topics. Number: Concepts of fractions (fractions as parts of a whole or of a collection, or as a location on a number line)	See Question TQM-07 in 2011 for sub-topics.	
TQM-06Ae	ATBM06AE	When students in this class have been taught each of the following mathematics topics. Number: Adding and subtracting with fractions, comparing and ordering fractions	See Question TQM-07 in 2011 for sub-topics.	
TQM-06Af	ATBM06AF	When students in this class have been taught each of the following mathematics topics. Number: Concepts of decimals, including place value and ordering, adding and subtracting with decimals	See Question TQM-07 in 2011 for sub-topics.	

Exhibit S1.3: Index of International Background Variables for the TIMSS 2015 Teacher Questionnaire - Fourth Grade (Continued)

TIMSS 2015 Question Number	TIMSS 2015 Variable Name	TIMSS 2015 Variable Description (See questionnaire for full item text)	TIMSS 2011 Variable Name	Notes
TQM-06Ag	ATBM06AG	When students in this class have been taught each of the following mathematics topics. Number: Number sentences	See Question TQM-07 in 2011 for sub-topics.	
TQM-06Ah	ATBM06AH	When students in this class have been taught each of the following mathematics topics. Number: Number patterns	See Question TQM-07 in 2011 for sub-topics.	
TQM-06Ba	ATBM06BA	When students in this class have been taught each of the following mathematics topics. Geometric Shapes and Measures: Lines: measuring, estimating length of; parallel and perpendicular lines	See Question TQM-07 in 2011 for sub-topics.	
TQM-06Bb	ATBM06BB	When students in this class have been taught each of the following mathematics topics. Geometric Shapes and Measures: Comparing and drawing angles	See Question TQM-07 in 2011 for sub-topics.	
TQM-06Bc	ATBM06BC	When students in this class have been taught each of the following mathematics topics. Geometric Shapes and Measures: Using informal coordinate systems to locate points in a plane	See Question TQM-07 in 2011 for sub-topics.	
TQM-06Bd	ATBM06BD	When students in this class have been taught each of the following mathematics topics. Geometric Shapes and Measures: Elementary properties of common geometric shapes	See Question TQM-07 in 2011 for sub-topics.	
TQM-06Be	ATBM06BE	When students in this class have been taught each of the following mathematics topics. Geometric Shapes and Measures: Reflections and rotations	See Question TQM-07 in 2011 for sub-topics.	
TQM-06Bf	ATBM06BF	When students in this class have been taught each of the following mathematics topics. Geometric Shapes and Measures: Relationships between two-dimensional and three-dimensional shapes	See Question TQM-07 in 2011 for sub-topics.	
TQM-06Bg	ATBM06BG	When students in this class have been taught each of the following mathematics topics. Geometric Shapes and Measures: Finding and estimating areas, perimeters, and volumes	See Question TQM-07 in 2011 for sub-topics.	
TQM-06Ca	ATBM06CA	When students in this class have been taught each of the following mathematics topics. Data Display: Reading and representing data from tables, pictographs, bar graphs, or pie charts	See Question TQM-07 in 2011 for sub-topics.	
TQM-06Cb	ATBM06CB	When students in this class have been taught each of the following mathematics topics. Data Display: Drawing conclusions from data displays	See Question TQM-07 in 2011 for sub-topics.	
TQM-07A	ATBM07A	How often do you usually assign mathematics homework to the students in this class?	ATBM09A	
TQM-07B	ATBM07B	When you assign mathematics homework to the students in this class, about how many minutes do you usually assign?	ATBM09B	
TQM-07Ca	ATBM07CA	How often do you do the following with the mathematics homework assignments for this class? Correct assignments and give feedback to students	ATBM09CA	
TQM-07Cb	ATBM07CB	How often do you do the following with the mathematics homework assignments for this class? Discuss the homework in class	ATBM09CB	

Exhibit S1.3: Index of International Background Variables for the TIMSS 2015 Teacher Questionnaire - Fourth Grade (Continued)

TIMSS 2015 Question Number	TIMSS 2015 Variable Name	TIMSS 2015 Variable Description (See questionnaire for full item text)	TIMSS 2011 Variable Name	Notes
TQM-07Cc	ATBM07CC	How often do you do the following with the mathematics homework assignments for this class? Monitor whether or not the homework was completed	ATBM09CC	
TQM-08a	ATBM08A	How much emphasis do you place on the following sources to monitor students' progress in mathematics? Assessment of students' ongoing work	ATBM10A	Modified wording in 2015
TQM-08b	ATBM08B	How much emphasis do you place on the following sources to monitor students' progress in mathematics? Classroom tests	ATBM10B	
TQM-08c	ATBM08C	How much emphasis do you place on the following sources to monitor students' progress in mathematics? National or regional achievement tests	ATBM10C	
TQM-09a	ATBM09A	In the past two years, have you participated in professional development in any of the following? Mathematics content	ATBM11A	
TQM-09b	ATBM09B	In the past two years, have you participated in professional development in any of the following? Mathematics pedagogy/instruction	ATBM11B	
TQM-09c	ATBM09C	In the past two years, have you participated in professional development in any of the following? Mathematics curriculum	ATBM11C	
TQM-09d	ATBM09D	In the past two years, have you participated in professional development in any of the following? Integrating information technology into mathematics	ATBM11D	
TQM-09e	ATBM09E	In the past two years, have you participated in professional development in any of the following? Improving students' critical thinking or problem solving skills		
TQM-09f	ATBM09F	In the past two years, have you participated in professional development in any of the following? Mathematics assessment	ATBM11E	
TQM-09g	ATBM09G	In the past two years, have you participated in professional development in any of the following? Addressing individual students' needs	ATBM11F	
TQM-10	ATBM10	In the past two years, how many hours in total have you spent in formal <in-service/professional development> for mathematics?		
TQM-11Aa	ATBM11AA	How well prepared do you feel you are to teach the following mathematics topics? Number: Concepts of whole numbers, including place value and ordering	See Question TQM-12 in 2011 for sub-topics.	
TQM-11Ab	ATBM11AB	How well prepared do you feel you are to teach the following mathematics topics? Number: Adding, subtracting, multiplying, and/or dividing with whole numbers	See Question TQM-12 in 2011 for sub-topics.	
TQM-11Ac	ATBM11AC	How well prepared do you feel you are to teach the following mathematics topics? Number: Concepts of multiples and factors; odd and even numbers	See Question TQM-12 in 2011 for sub-topics.	
TQM-11Ad	ATBM11AD	How well prepared do you feel you are to teach the following mathematics topics? Number: Concepts of fractions (fractions as parts of a whole or of a collection, or as a location on a number line)	See Question TQM-12 in 2011 for sub-topics.	
TQM-11Ae	ATBM11AE	How well prepared do you feel you are to teach the following mathematics topics? Number: Adding and subtracting with fractions, comparing and ordering fractions	See Question TQM-12 in 2011 for sub-topics.	
TQM-11Af	ATBM11AF	How well prepared do you feel you are to teach the following mathematics topics? Number: Concepts of decimals, including place value and ordering, adding and subtracting with decimals	See Question TQM-12 in 2011 for sub-topics.	
TQM-11Ag	ATBM11AG	How well prepared do you feel you are to teach the following mathematics topics? Number: Number sentences	See Question TQM-12 in 2011 for sub-topics.	

Exhibit S1.3: Index of International Background Variables for the TIMSS 2015 Teacher Questionnaire - Fourth Grade (Continued)

TIMSS 2015 Question Number	TIMSS 2015 Variable Name	TIMSS 2015 Variable Description (See questionnaire for full item text)	TIMSS 2011 Variable Name	Notes
TQM-11Ah	ATBM11AH	How well prepared do you feel you are to teach the following mathematics topics? Number: Number patterns	See Question TQM-12 in 2011 for sub-topics.	
TQM-11Ba	ATBM11BA	How well prepared do you feel you are to teach the following mathematics topics? Geometric Shapes and Measures: Lines: measuring, estimating length of; parallel and perpendicular lines	See Question TQM-12 in 2011 for sub-topics.	
TQM-11Bb	ATBM11BB	How well prepared do you feel you are to teach the following mathematics topics? Geometric Shapes and Measures: Comparing and drawing angles	See Question TQM-12 in 2011 for sub-topics.	
TQM-11Bc	ATBM11BC	How well prepared do you feel you are to teach the following mathematics topics? Geometric Shapes and Measures: Using informal coordinate systems to locate points in a plane	See Question TQM-12 in 2011 for sub-topics.	
TQM-11Bd	ATBM11BD	How well prepared do you feel you are to teach the following mathematics topics? Geometric Shapes and Measures: Elementary properties of common geometric shapes	See Question TQM-12 in 2011 for sub-topics.	
TQM-11Be	ATBM11BE	How well prepared do you feel you are to teach the following mathematics topics? Geometric Shapes and Measures: Reflections and rotations	See Question TQM-12 in 2011 for sub-topics.	
TQM-11Bf	ATBM11BF	How well prepared do you feel you are to teach the following mathematics topics? Geometric Shapes and Measures: Relationships between two-dimensional and three-dimensional shapes	See Question TQM-12 in 2011 for sub-topics.	
TQM-11Bg	ATBM11BG	How well prepared do you feel you are to teach the following mathematics topics? Geometric Shapes and Measures: Finding and estimating areas, perimeters, and volumes	See Question TQM-12 in 2011 for sub-topics.	
TQM-11Ca	ATBM11CA	How well prepared do you feel you are to teach the following mathematics topics? Data Display: Reading and representing data from tables, pictographs, bar graphs, or pie charts	See Question TQM-12 in 2011 for sub-topics.	
TQM-11Cb	ATBM11CB	How well prepared do you feel you are to teach the following mathematics topics? Data Display: Drawing conclusions from data displays	See Question TQM-12 in 2011 for sub-topics.	
TQS-01A	ATBS01A	Is science taught mainly as a separate subject (i.e., not integrated with other subjects) to the students in this class?	ATBS01A	
TQS-01B	ATBS01B	Please estimate the time that you spend on science topics with students in this class (minutes per week).	ATBS01BA ATBS01BB	Hours and minutes separate variables in 2011
TQS-02a	ATBS02A	In teaching science to this class, how would you characterize your confidence in doing the following? Inspiring students to learn science		
TQS-02b	ATBS02B	In teaching science to this class, how would you characterize your confidence in doing the following? Explaining science concepts or principles by doing science experiments		
TQS-02c	ATBS02C	In teaching science to this class, how would you characterize your confidence in doing the following? Providing challenging tasks for the highest achieving students		

Exhibit S1.3: Index of International Background Variables for the TIMSS 2015 Teacher Questionnaire - Fourth Grade (Continued)

TIMSS 2015 Question Number	TIMSS 2015 Variable Name	TIMSS 2015 Variable Description (See questionnaire for full item text)	TIMSS 2011 Variable Name	Notes
TQS-02d	ATBS02D	In teaching science to this class, how would you characterize your confidence in doing the following? Adapting my teaching to engage students' interest		
TQS-02e	ATBS02E	In teaching science to this class, how would you characterize your confidence in doing the following? Helping students appreciate the value of learning science		
TQS-02f	ATBS02F	In teaching science to this class, how would you characterize your confidence in doing the following? Assessing student comprehension of science		
TQS-02g	ATBS02G	In teaching science to this class, how would you characterize your confidence in doing the following? Improving the understanding of struggling students		
TQS-02h	ATBS02H	In teaching science to this class, how would you characterize your confidence in doing the following? Making science relevant to students		
TQS-02i	ATBS02I	In teaching science to this class, how would you characterize your confidence in doing the following? Developing students' higher-order thinking skills		
TQS-02j	ATBS02J	In teaching science to this class, how would you characterize your confidence in doing the following? Teaching science using inquiry methods		
TQS-03a	ATBS03A	In teaching science to the students in this class, how often do you ask them to do the following? Listen to me explain new science content		
TQS-03b	ATBS03B	In teaching science to the students in this class, how often do you ask them to do the following? Observe natural phenomena such as the weather or a plant growing and describe what they see	ATBS03A	Modified wording in 2015
TQS-03c	ATBS03C	In teaching science to the students in this class, how often do you ask them to do the following? Watch me demonstrate an experiment or investigation	ATBS03B	Modified wording in 2015
TQS-03d	ATBS03D	In teaching science to the students in this class, how often do you ask them to do the following? Design or plan experiments or investigations	ATBS03C	Modified wording in 2015
TQS-03e	ATBS03E	In teaching science to the students in this class, how often do you ask them to do the following? Conduct experiments or investigations	ATBS04D	Modified wording in 2015
TQS-03f	ATBS03F	In teaching science to the students in this class, how often do you ask them to do the following? Present data from experiments or investigations		
TQS-03g	ATBS03G	In teaching science to the students in this class, how often do you ask them to do the following? Interpret data from experiments or investigations		
TQS-03h	ATBS03H	In teaching science to the students in this class, how often do you ask them to do the following? Use evidence from experiments or investigations to support conclusions		
TQS-03i	ATBS03I	In teaching science to the students in this class, how often do you ask them to do the following? Read their textbooks or other resource materials	ATBS03E	Modified wording in 2015
TQS-03j	ATBS03J	In teaching science to the students in this class, how often do you ask them to do the following? Have students memorize facts and principles	ATBS03F	Modified wording in 2015
TQS-03k	ATBS03K	In teaching science to the students in this class, how often do you ask them to do the following? Do field work outside the class	ATBS03I	Modified wording in 2015
TQS-03l	ATBS03L	In teaching science to the students in this class, how often do you ask them to do the following? Take a written test or quiz	ATBS03J	Modified wording in 2015
TQS-03m	ATBS03M	In teaching science to the students in this class, how often do you ask them to do the following? Work in mixed ability groups		
TQS-03n	ATBS03N	In teaching science to the students in this class, how often do you ask them to do the following? Work in same ability groups		
TQS-04A	ATBS04A	Do the students in this class have computers (including tablets) available to use during their science lessons?	ATBS05A	Modified wording in 2015
TQS-04Ba	ATBS04BA	What access do the students have to computers? Each student has a computer		
TQS-04Bb	ATBS04BB	What access do the students have to computers? The class has computers that students can share		
TQS-04Bc	ATBS04BC	What access do the students have to computers? The school has computers that the class can use sometimes		

Exhibit S1.3: Index of International Background Variables for the TIMSS 2015 Teacher Questionnaire - Fourth Grade (Continued)

TIMSS 2015 Question Number	TIMSS 2015 Variable Name	TIMSS 2015 Variable Description (See questionnaire for full item text)	TIMSS 2011 Variable Name	Notes
TQS-04Ca	ATBS04CA	How often do you have the students do the following activities on computers during science lessons? Practice skills and procedures	ATBS05CA	Modified wording in 2015
TQS-04Cb	ATBS04CB	How often do you have the students do the following activities on computers during science lessons? Look up ideas and information	ATBS05CB	Modified wording in 2015
TQS-04Cc	ATBS04CC	How often do you have the students do the following activities on computers during science lessons? Do scientific procedures or experiments	ATBS05CC	Modified wording in 2015
TQS-04Cd	ATBS04CD	How often do you have the students do the following activities on computers during science lessons? Study natural phenomena through simulations	ATBS05CD	Modified wording in 2015
TQS-05Aa	ATBS05AA	When students in this class have been taught each of the following science topics. Life Science: Characteristics of living things and the major groups of living things	See Question TQS-06 in 2011 for sub-topics.	
TQS-05Ab	ATBS05AB	When students in this class have been taught each of the following science topics. Life Science: Major body structures and their functions in humans, other animals, and plants	See Question TQS-06 in 2011 for sub-topics.	
TQS-05Ac	ATBS05AC	When students in this class have been taught each of the following science topics. Life Science: Life cycles of common plants and animals	See Question TQS-06 in 2011 for sub-topics.	
TQS-05Ad	ATBS05AD	When students in this class have been taught each of the following science topics. Life Science: Understanding that some characteristics are inherited and some are the result of the environment	See Question TQS-06 in 2011 for sub-topics.	
TQS-05Ae	ATBS05AE	When students in this class have been taught each of the following science topics. Life Science: How physical features and behaviors help living things survive in their environments	See Question TQS-06 in 2011 for sub-topics.	
TQS-05Af	ATBS05AF	When students in this class have been taught each of the following science topics. Life Science: Relationships in communities and ecosystems (e.g., simple food chains, predator-prey relationships, human impacts on the environment)	See Question TQS-06 in 2011 for sub-topics.	
TQS-05Ag	ATBS05AG	When students in this class have been taught each of the following science topics. Life Science: Human health (transmission and prevention of diseases, symptoms of health and illness, importance of a healthy diet and exercise)	See Question TQS-06 in 2011 for sub-topics.	
TQS-05Ba	ATBS05BA	When students in this class have been taught each of the following science topics. Physical Science: States of matter (solid, liquid, gas) and properties of the states of matter (volume, shape); how the state of matter changes by heating or cooling	See Question TQS-06 in 2011 for sub-topics.	
TQS-05Bb	ATBS05BB	When students in this class have been taught each of the following science topics. Physical Science: Classifying materials based on physical properties (e.g., weight/mass, volume, conducting heat, conducting electricity, magnetic attraction)	See Question TQS-06 in 2011 for sub-topics.	
TQS-05Bc	ATBS05BC	When students in this class have been taught each of the following science topics. Physical Science: Mixtures and how to separate a mixture into its components	See Question TQS-06 in 2011 for sub-topics.	
TQS-05Bd	ATBS05BD	When students in this class have been taught each of the following science topics. Physical Science: Chemical changes in everyday life	See Question TQS-06 in 2011 for sub-topics.	

Exhibit S1.3: Index of International Background Variables for the TIMSS 2015 Teacher Questionnaire - Fourth Grade (Continued)

TIMSS 2015 Question Number	TIMSS 2015 Variable Name	TIMSS 2015 Variable Description (See questionnaire for full item text)	TIMSS 2011 Variable Name	Notes
TQS-05Be	ATBS05BE	When students in this class have been taught each of the following science topics. Physical Science: Common sources of energy and uses of energy	See Question TQS-06 in 2011 for sub-topics.	
TQS-05Bf	ATBS05BF	When students in this class have been taught each of the following science topics. Physical Science: Light and sound in everyday life	See Question TQS-06 in 2011 for sub-topics.	
TQS-05Bg	ATBS05BG	When students in this class have been taught each of the following science topics. Physical Science: Electricity and simple circuits	See Question TQS-06 in 2011 for sub-topics.	
TQS-05Bh	ATBS05BH	When students in this class have been taught each of the following science topics. Physical Science: Properties of magnets	See Question TQS-06 in 2011 for sub-topics.	
TQS-05Bi	ATBS05BI	When students in this class have been taught each of the following science topics. Physical Science: Forces that cause objects to move (e.g., gravity, pushing/pulling)	See Question TQS-06 in 2011 for sub-topics.	
TQS-05Ca	ATBS05CA	When students in this class have been taught each of the following science topics. Earth Science: Common features of the Earth's landscape and their relationship to human use	See Question TQS-06 in 2011 for sub-topics.	
TQS-05Cb	ATBS05CB	When students in this class have been taught each of the following science topics. Earth Science: Where water is found on the Earth and how it moves in and out of the air	See Question TQS-06 in 2011 for sub-topics.	
TQS-05Cc	ATBS05CC	When students in this class have been taught each of the following science topics. Earth Science: Understanding that weather can change from day to day, from season to season, and by geographic location	See Question TQS-06 in 2011 for sub-topics.	
TQS-05Cd	ATBS05CD	When students in this class have been taught each of the following science topics. Earth Science: Understanding what fossils are and what they can tell us about past conditions on Earth	See Question TQS-06 in 2011 for sub-topics.	
TQS-05Ce	ATBS05CE	When students in this class have been taught each of the following science topics. Earth Science: Objects in the solar system and their movements	See Question TQS-06 in 2011 for sub-topics.	
TQS-05Cf	ATBS05CF	When students in this class have been taught each of the following science topics. Earth Science: Understanding how day and night result from the Earth's rotation on its axis and how the Earth's rotation results in changing shadows throughout the day	See Question TQS-06 in 2011 for sub-topics.	
TQS-05Cg	ATBS05CG	When students in this class have been taught each of the following science topics. Earth Science: Understanding how seasons are related to the Earth's annual movement around the Sun	See Question TQS-06 in 2011 for sub-topics.	
TQS-06A	ATBS06A	How often do you usually assign science homework to the students in this class?	ATBS08A	
TQS-06B	ATBS06B	When you assign science homework to the students in this class, about how many minutes do you usually assign?	ATBS08B	
TQS-06Ca	ATBS06CA	How often do you do the following with the science homework assignments for this class? Correct assignments and give feedback to students	ATBS08CA	

Exhibit S1.3: Index of International Background Variables for the TIMSS 2015 Teacher Questionnaire - Fourth Grade (Continued)

TIMSS 2015 Question Number	TIMSS 2015 Variable Name	TIMSS 2015 Variable Description (See questionnaire for full item text)	TIMSS 2011 Variable Name	Notes
TQS-06Cb	ATBS06CB	How often do you do the following with the science homework assignments for this class? Discuss the homework in class	ATBS08CB	
TQS-06Cc	ATBS06CC	How often do you do the following with the science homework assignments for this class? Monitor whether or not the homework was completed	ATBS08CC	
TQS-07a	ATBS07A	How much emphasis do you place on the following sources to monitor students' progress in science? Assessment of students' ongoing work	ATBS09A	Modified wording in 2015
TQS-07b	ATBS07B	How much emphasis do you place on the following sources to monitor students' progress in science? Classroom tests	ATBS09B	
TQS-07c	ATBS07C	How much emphasis do you place on the following sources to monitor students' progress in science? National or regional achievement tests	ATBS09C	
TQS-08a	ATBS08A	In the past two years, have you participated in professional development in any of the following? Science content	ATBS10A	
TQS-08b	ATBS08B	In the past two years, have you participated in professional development in any of the following? Science pedagogy/instruction	ATBS10B	
TQS-08c	ATBS08C	In the past two years, have you participated in professional development in any of the following? Science curriculum	ATBS10C	
TQS-08d	ATBS08D	In the past two years, have you participated in professional development in any of the following? Integrating information technology into science	ATBS10D	
TQS-08e	ATBS08E	In the past two years, have you participated in professional development in any of the following? Improving students' critical thinking or inquiry skills		
TQS-08f	ATBS08F	In the past two years, have you participated in professional development in any of the following? Science assessment	ATBS10E	
TQS-08g	ATBS08G	In the past two years, have you participated in professional development in any of the following? Addressing individual students' needs	ATBS10F	
TQS-08h	ATBS08H	In the past two years, have you participated in professional development in any of the following? Integrating science with other subjects		
TQS-09	ATBS09	In the past two years, how many hours in total have you spent in formal <in-service/professional development> for science?		
TQS-10Aa	ATBS10AA	How well prepared do you feel you are to teach the following science topics? Life Science: Characteristics of living things and the major groups of living things	See Question TQS-11 in 2011 for sub-topics.	
TQS-10Ab	ATBS10AB	How well prepared do you feel you are to teach the following science topics? Life Science: Major body structures and their functions in humans, other animals, and plants	See Question TQS-11 in 2011 for sub-topics.	
TQS-10Ac	ATBS10AC	How well prepared do you feel you are to teach the following science topics? Life Science: Life cycles of common plants and animals	See Question TQS-11 in 2011 for sub-topics.	
TQS-10Ad	ATBS10AD	How well prepared do you feel you are to teach the following science topics? Life Science: Understanding that some characteristics are inherited and some are the result of the environment	See Question TQS-11 in 2011 for sub-topics.	
TQS-10Ae	ATBS10AE	How well prepared do you feel you are to teach the following science topics? Life Science: How physical features and behaviors help living things survive in their environments	See Question TQS-11 in 2011 for sub-topics.	
TQS-10Af	ATBS10AF	How well prepared do you feel you are to teach the following science topics? Life Science: Relationships in communities and ecosystems (e.g., simple food chains, predator-prey relationships, human impacts on the environment)	See Question TQS-11 in 2011 for sub-topics.	

Exhibit S1.3: Index of International Background Variables for the TIMSS 2015 Teacher Questionnaire - Fourth Grade (Continued)

TIMSS 2015 Question Number	TIMSS 2015 Variable Name	TIMSS 2015 Variable Description (See questionnaire for full item text)	TIMSS 2011 Variable Name	Notes
TQS-10Ag	ATBS10AG	How well prepared do you feel you are to teach the following science topics? Life Science: Human health (transmission and prevention of diseases, symptoms of health and illness, importance of a healthy diet and exercise)	See Question TQS-11 in 2011 for sub-topics.	
TQS-10Ba	ATBS10BA	How well prepared do you feel you are to teach the following science topics? Physical Science: States of matter (solid, liquid, gas) and properties of the states of matter (volume, shape); how the state of matter changes by heating or cooling	See Question TQS-11 in 2011 for sub-topics.	
TQS-10Bb	ATBS10BB	How well prepared do you feel you are to teach the following science topics? Physical Science: Classifying materials based on physical properties (e.g., weight/mass, volume, conducting heat, conducting electricity, magnetic attraction)	See Question TQS-11 in 2011 for sub-topics.	
TQS-10Bc	ATBS10BC	How well prepared do you feel you are to teach the following science topics? Physical Science: Mixtures and how to separate a mixture into its components	See Question TQS-11 in 2011 for sub-topics.	
TQS-10Bd	ATBS10BD	How well prepared do you feel you are to teach the following science topics? Physical Science: Chemical changes in everyday life	See Question TQS-11 in 2011 for sub-topics.	
TQS-10Be	ATBS10BE	How well prepared do you feel you are to teach the following science topics? Physical Science: Common sources of energy and uses of energy	See Question TQS-11 in 2011 for sub-topics.	
TQS-10Bf	ATBS10BF	How well prepared do you feel you are to teach the following science topics? Physical Science: Light and sound in everyday life	See Question TQS-11 in 2011 for sub-topics.	
TQS-10Bg	ATBS10BG	How well prepared do you feel you are to teach the following science topics? Physical Science: Electricity and simple circuits	See Question TQS-11 in 2011 for sub-topics.	
TQS-10Bh	ATBS10BH	How well prepared do you feel you are to teach the following science topics? Physical Science: Properties of magnets	See Question TQS-11 in 2011 for sub-topics.	
TQS-10Bi	ATBS10BI	How well prepared do you feel you are to teach the following science topics? Physical Science: Forces that cause objects to move (e.g., gravity, pushing/pulling)	See Question TQS-11 in 2011 for sub-topics.	
TQS-10Ca	ATBS10CA	How well prepared do you feel you are to teach the following science topics? Earth Science: Common features of the Earth's landscape and their relationship to human use	See Question TQS-11 in 2011 for sub-topics.	
TQS-10Cb	ATBS10CB	How well prepared do you feel you are to teach the following science topics? Earth Science: Where water is found on the Earth and how it moves in and out of the air	See Question TQS-11 in 2011 for sub-topics.	
TQS-10Cc	ATBS10CC	How well prepared do you feel you are to teach the following science topics? Earth Science: Understanding that weather can change from day to day, from season to season, and by geographic location	See Question TQS-11 in 2011 for sub-topics.	

Exhibit S1.3: Index of International Background Variables for the TIMSS 2015 Teacher Questionnaire - Fourth Grade (Continued)

TIMSS 2015 Question Number	TIMSS 2015 Variable Name	TIMSS 2015 Variable Description (See questionnaire for full item text)	TIMSS 2011 Variable Name	Notes
TQS-10Cd	ATBS10CD	How well prepared do you feel you are to teach the following science topics? Earth Science: Understanding what fossils are and what they can tell us about past conditions on Earth	See Question TQS-11 in 2011 for sub-topics.	
TQS-10Ce	ATBS10CE	How well prepared do you feel you are to teach the following science topics? Earth Science: Objects in the solar system and their movements	See Question TQS-11 in 2011 for sub-topics.	
TQS-10Cf	ATBS10CF	How well prepared do you feel you are to teach the following science topics? Earth Science: Understanding how day and night result from the Earth's rotation on its axis and how the Earth's rotation results in changing shadows throughout the day	See Question TQS-11 in 2011 for sub-topics.	
TQS-10Cg	ATBS10CG	How well prepared do you feel you are to teach the following science topics? Earth Science: Understanding how seasons are related to the Earth's annual movement around the Sun	See Question TQS-11 in 2011 for sub-topics.	



Identification Label

TRENDS IN INTERNATIONAL MATHEMATICS AND SCIENCE STUDY

Teacher Questionnaire

<Grade 4>

<TIMSS National Research Center Name>

<Address>



TIMSS & PIRLS
International Study Center
Lynch School of Education, Boston College

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Teacher Questionnaire

Your school has agreed to participate in TIMSS 2015 (Trends in International Mathematics and Science Study), an educational research project sponsored by the International Association for the Evaluation of Educational Achievement (IEA). TIMSS measures trends in student achievement in mathematics and science and studies differences in national education systems in almost 60 countries in order to help improve teaching and learning worldwide.

This questionnaire is addressed to teachers of <fourth grade> students, and seeks information about teachers' academic and professional backgrounds, classroom resources, instructional practices, and attitudes toward teaching. Since your class has been selected as part of a nationwide sample, your responses are very important in helping to describe primary/elementary education in <country>.

Some of the questions in the questionnaire refer to the "**TIMSS class**" or "**this class**". This is the class that is identified on the front of this booklet, and which will be tested as part of TIMSS in your school. If you teach some but not all of the students in the TIMSS class, please think only of the students that you teach when answering these class-specific questions. It is important that you answer each question carefully so that the information that you provide reflects your situation as accurately as possible.

Since TIMSS is an international study and all countries are using the same questionnaire, you may find that some of the questions seem unusual or are not entirely relevant to you or schools in <country>. Nevertheless, it is important that you do your best to answer all of the questions so comparisons can be made across countries in the studies.

It is estimated that you will need approximately 35 minutes to complete this questionnaire. We appreciate the time and effort that this takes and thank you for your cooperation and contribution.

When you have completed the questionnaire, please place it in the accompanying envelope and return it to:

<Insert country-specific information here>.

Thank you.

TIMSS 2015

About You

G1

ATBG01

By the end of this school year, how many years will you have been teaching altogether?

_____ years
Please **round** to the nearest whole number.

G2

ATBG02

Are you female or male?

Check **one** circle only.

Female ---

Male ---

G3

ATBG03

How old are you?

Check **one** circle only.

Under 25 ---

25–29 ---

30–39 ---

40–49 ---

50–59 ---

60 or more ---

G4

ATBG04

What is the highest level of formal education you have completed?

Check **one** circle only.

Did not complete <Upper secondary education—ISCED Level 3> ---

<Upper secondary education—ISCED Level 3> --- →

(If you have not completed <post-secondary or tertiary education>, go to #G6)

<Post-secondary, non-tertiary education—ISCED Level 4> ---

<Short-cycle tertiary education—ISCED Level 5> ---

<Bachelor's or equivalent level—ISCED Level 6> ---

<Master's or equivalent level—ISCED Level 7> ---

<Doctor or equivalent level—ISCED Level 8> ---

G5

A. During your <post-secondary> education, what was your major or main area(s) of study?

Check **one** circle for each line.

- | | Yes | No | |
|---------------------------------------|-----------------------|-----------------------|----------|
| a) Education—Primary/Elementary ----- | <input type="radio"/> | <input type="radio"/> | ATBG05AA |
| b) Education—Secondary ----- | <input type="radio"/> | <input type="radio"/> | ATBG05AB |
| c) Mathematics ----- | <input type="radio"/> | <input type="radio"/> | ATBG05AC |
| d) Science ----- | <input type="radio"/> | <input type="radio"/> | ATBG05AD |
| e) <language of test> ----- | <input type="radio"/> | <input type="radio"/> | ATBG05AE |
| f) Other ----- | <input type="radio"/> | <input type="radio"/> | ATBG05AF |

B. If your major or main area of study was education, did you have a <specialization> in any of the following?

Check **one** circle for each line.

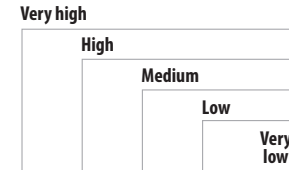
- | | Yes | No | |
|---------------------------|-----------------------|-----------------------|----------|
| a) Mathematics ----- | <input type="radio"/> | <input type="radio"/> | ATBG05BA |
| b) Science ----- | <input type="radio"/> | <input type="radio"/> | ATBG05BB |
| c) Language/reading ----- | <input type="radio"/> | <input type="radio"/> | ATBG05BC |
| d) Other subject ----- | <input type="radio"/> | <input type="radio"/> | ATBG05BD |

School Emphasis on Academic Success

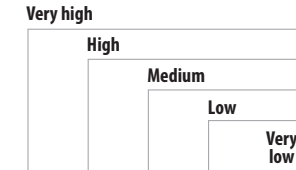
G6

How would you characterize each of the following within your school?

Check **one** circle for each line.



Check **one** circle for each line.



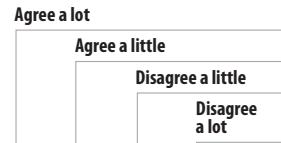
- | | | | | | | | | | | | | | |
|---------|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|---------|
| ATBG06A | a) Teachers' understanding of the school's curricular goals | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | k) Students' desire to do well in school | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | ATBG06K |
| ATBG06B | b) Teachers' degree of success in implementing the school's curriculum | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | l) Students' ability to reach school's academic goals | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | ATBG06L |
| ATBG06C | c) Teachers' expectations for student achievement | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | m) Students' respect for classmates who excel in school | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | ATBG06M |
| ATBG06D | d) Teachers working together to improve student achievement | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | n) Clarity of the school's educational objectives | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | ATBG06N |
| ATBG06E | e) Teachers' ability to inspire students | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | o) Collaboration between school leadership and teachers to plan instruction | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | ATBG06O |
| ATBG06F | f) Parental involvement in school activities | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | p) Amount of instructional support provided to teachers by school leadership | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | ATBG06P |
| ATBG06G | g) Parental commitment to ensure that students are ready to learn | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | q) School leadership's support for teachers' professional development | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | ATBG06Q |
| ATBG06H | h) Parental expectations for student achievement | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | | | | | | | |
| ATBG06I | i) Parental support for student achievement | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | | | | | | | |
| ATBG06J | j) Parental pressure for the school to maintain high academic standards | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | | | | | | | |

School Environment

G7

Thinking about your current school, indicate the extent to which you agree or disagree with each of the following statements.

Check **one** circle for each line.

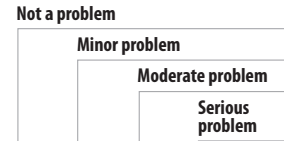


- ATBG07A a) This school is located in a safe neighborhood ----- ○ — ○ — ○ — ○
- ATBG07B b) I feel safe at this school ----- ○ — ○ — ○ — ○
- ATBG07C c) This school's security policies and practices are sufficient ----- ○ — ○ — ○ — ○
- ATBG07D d) The students behave in an orderly manner ----- ○ — ○ — ○ — ○
- ATBG07E e) The students are respectful of the teachers ----- ○ — ○ — ○ — ○
- ATBG07F f) The students respect school property ----- ○ — ○ — ○ — ○
- ATBG07G g) This school has clear rules about student conduct ----- ○ — ○ — ○ — ○
- ATBG07H h) This school's rules are enforced in a fair and consistent manner ----- ○ — ○ — ○ — ○

G8

In your current school, how severe is each problem?

Check **one** circle for each line.



- a) The school building needs significant repair ----- ○ — ○ — ○ — ○ ATBG08A
- b) Teachers do not have adequate workspace (e.g., for preparation, collaboration, or meeting with students) ----- ○ — ○ — ○ — ○ ATBG08B
- c) Teachers do not have adequate instructional materials and supplies ----- ○ — ○ — ○ — ○ ATBG08C
- d) The school classrooms are not cleaned often enough ----- ○ — ○ — ○ — ○ ATBG08D
- e) The school classrooms need maintenance work ----- ○ — ○ — ○ — ○ ATBG08E
- f) Teachers do not have adequate technological resources ----- ○ — ○ — ○ — ○ ATBG08F
- g) Teachers do not have adequate support for using technology ----- ○ — ○ — ○ — ○ ATBG08G

About Being a Teacher

G9

How often do you have the following types of interactions with other teachers?

Check **one** circle for each line.



- ATBG09A a) Discuss how to teach a particular topic ----- ○ — ○ — ○ — ○
- ATBG09B b) Collaborate in planning and preparing instructional materials ----- ○ — ○ — ○ — ○
- ATBG09C c) Share what I have learned about my teaching experiences ----- ○ — ○ — ○ — ○
- ATBG09D d) Visit another classroom to learn more about teaching ----- ○ — ○ — ○ — ○
- ATBG09E e) Work together to try out new ideas ----- ○ — ○ — ○ — ○
- ATBG09F f) Work as a group on implementing the curriculum ----- ○ — ○ — ○ — ○
- ATBG09G g) Work with teachers from other grades to ensure continuity in learning ----- ○ — ○ — ○ — ○

G10

How often do you feel the following way about being a teacher?

Check **one** circle for each line.



- a) I am content with my profession as a teacher ----- ○ — ○ — ○ — ○ ATBG10A
- b) I am satisfied with being a teacher at this school ----- ○ — ○ — ○ — ○ ATBG10B
- c) I find my work full of meaning and purpose ----- ○ — ○ — ○ — ○ ATBG10C
- d) I am enthusiastic about my job ----- ○ — ○ — ○ — ○ ATBG10D
- e) My work inspires me ----- ○ — ○ — ○ — ○ ATBG10E
- f) I am proud of the work I do ----- ○ — ○ — ○ — ○ ATBG10F
- g) I am going to continue teaching for as long as I can ----- ○ — ○ — ○ — ○ ATBG10G

**About Teaching the
TIMSS Class**

G11

Indicate the extent to which you agree or disagree with each of the following statements.

Check **one** circle for each line.



- ATBG11A a) There are too many students in the classes ----- — — —
- ATBG11B b) I have too much material to cover in class ----- — — —
- ATBG11C c) I have too many teaching hours ----- — — —
- ATBG11D d) I need more time to prepare for class ----- — — —
- ATBG11E e) I need more time to assist individual students ----- — — —
- ATBG11F f) I feel too much pressure from parents ----- — — —
- ATBG11G g) I have difficulty keeping up with all of the changes to the curriculum ----- — — —
- ATBG11H h) I have too many administrative tasks ----- — — —

G12

A. How many students are in this class?

ATBG12A

_____ students
Write in the number.

B. How many of the students in #G12A are in <fourth grade>?

ATBG12B

_____ <fourth grade> students
Write in the number.

G13

How many <fourth grade> students experience difficulties understanding spoken <language of test>?

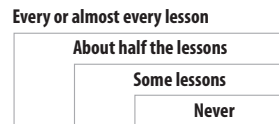
ATBG13

_____ students in this class
Write in the number.

G14

How often do you do the following in teaching this class?

Check **one** circle for each line.



- ATBG14A a) Relate the lesson to students' daily lives ----- - - -
- ATBG14B b) Ask students to explain their answers ----- - - -
- ATBG14C c) Bring interesting materials to class ----- - - -
- ATBG14D d) Ask students to complete challenging exercises that require them to go beyond the instruction ----- - - -
- ATBG14E e) Encourage classroom discussions among students ----- - - -
- ATBG14F f) Link new content to students' prior knowledge ----- - - -
- ATBG14G g) Ask students to decide their own problem solving procedures ----- - - -
- ATBG14H h) Encourage students to express their ideas in class ----- - - -

G15

In your view, to what extent do the following limit how you teach this class?

Check **one** circle for each line.



- a) Students lacking prerequisite knowledge or skills ----- - - ATBG15A
- b) Students suffering from lack of basic nutrition ----- - - ATBG15B
- c) Students suffering from not enough sleep ----- - - ATBG15C
- d) Disruptive students ----- - - ATBG15D
- e) Uninterested students ----- - - ATBG15E
- f) Students with physical disabilities ----- - - ATBG15F
- g) Students with mental, emotional, or psychological disabilities ----- - - ATBG15G

Teaching Mathematics to the TIMSS Class

M1

ATBM01

In a typical week, how much time do you spend teaching mathematics to the students in this class?

_____ minutes per week
Write in the number of minutes per week.
Please convert the number of hours into minutes.

M2

In teaching mathematics to this class, how would you characterize your confidence in doing the following?

Check **one** circle for each line.



ATBM02A

a) Inspiring students to learn mathematics ----- ○ — ○ — ○ — ○

ATBM02B

b) Showing students a variety of problem solving strategies ----- ○ — ○ — ○ — ○

ATBM02C

c) Providing challenging tasks for the highest achieving students ----- ○ — ○ — ○ — ○

ATBM02D

d) Adapting my teaching to engage students' interest ----- ○ — ○ — ○ — ○

ATBM02E

e) Helping students appreciate the value of learning mathematics ----- ○ — ○ — ○ — ○

ATBM02F

f) Assessing student comprehension of mathematics ----- ○ — ○ — ○ — ○

ATBM02G

g) Improving the understanding of struggling students ----- ○ — ○ — ○ — ○

ATBM02H

h) Making mathematics relevant to students ----- ○ — ○ — ○ — ○

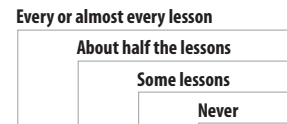
ATBM02I

i) Developing students' higher-order thinking skills ----- ○ — ○ — ○ — ○

M3

In teaching mathematics to this class, how often do you ask students to do the following?

Check **one** circle for each line.



a) Listen to me explain new mathematics content ----- ○ — ○ — ○ — ○ ATBM03A

b) Listen to me explain how to solve problems ----- ○ — ○ — ○ — ○ ATBM03B

c) Memorize rules, procedures, and facts ----- ○ — ○ — ○ — ○ ATBM03C

d) Work problems (individually or with peers) with my guidance ----- ○ — ○ — ○ — ○ ATBM03D

e) Work problems together in the whole class with direct guidance from me ----- ○ — ○ — ○ — ○ ATBM03E

f) Work problems (individually or with peers) while I am occupied by other tasks ----- ○ — ○ — ○ — ○ ATBM03F

g) Take a written test or quiz ----- ○ — ○ — ○ — ○ ATBM03G

h) Work in mixed ability groups ----- ○ — ○ — ○ — ○ ATBM03H

i) Work in same ability groups ----- ○ — ○ — ○ — ○ ATBM03I

Using Calculators and Computers for Teaching Mathematics to the TIMSS Class

M4
ATBM04 **Are the students in this class permitted to use calculators during mathematics lessons?**

Check **one** circle only.

- Yes, with unrestricted use ---
- Yes, with restricted use ---
- No, calculators are not permitted ---

M5
A. Do the students in this class have computers (including tablets) available to use during their mathematics lessons?

ATBM05A

Check **one** circle only.

- Yes ---
 - No ---
- (If No, go to #M6)

If Yes,

B. What access do the students have to computers?

Check **one** circle for each line.

- | | | | |
|--|-----------------------|-----------------------|--|
| | Yes | No | |
| a) Each student has a computer ----- | <input type="radio"/> | <input type="radio"/> | |
| b) The class has computers that students can share ----- | <input type="radio"/> | <input type="radio"/> | |
| c) The school has computers that the class can use sometimes ----- | <input type="radio"/> | <input type="radio"/> | |

ATBM05BA

ATBM05BB

ATBM05BC

C. How often do you have the students do the following activities on computers during mathematics lessons?

Check **one** circle for each line.

- | | | | | | |
|--|----------------------------------|-----------------------------|------------------------------|------------------------------|--|
| | Every or almost every day | Once or twice a week | Once or twice a month | Never or almost never | |
| a) Explore mathematics principles and concepts ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| b) Practice skills and procedures - | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| c) Look up ideas and information ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |

ATBM06CA

ATBM06CB

ATBM06CC

Mathematics Topics Taught to the TIMSS Class

M6

The following list includes the main topics addressed by the TIMSS mathematics test. Choose the response that best describes when the students in this class have been taught each topic. If a topic was in the curriculum before the <fourth grade>, please choose "Mostly taught before this year." If a topic was taught half this year but not yet completed, please choose "Mostly taught this year." If a topic is not in the curriculum, please choose "Not yet taught or just introduced."

Check **one** circle for each line.



A. Number

- ATBM06AA a) Concepts of whole numbers, including place value and ordering ----- ○ — ○ — ○
- ATBM06AB b) Adding, subtracting, multiplying, and/or dividing with whole numbers ----- ○ — ○ — ○
- ATBM06AC c) Concepts of multiples and factors; odd and even numbers ----- ○ — ○ — ○
- ATBM06AD d) Concepts of fractions (fractions as parts of a whole or of a collection, or as a location on a number line) ----- ○ — ○ — ○
- ATBM06AE e) Adding and subtracting with fractions, comparing and ordering fractions ----- ○ — ○ — ○
- ATBM06AF f) Concepts of decimals, including place value and ordering, adding and subtracting with decimals ----- ○ — ○ — ○
- ATBM06AG g) Number sentences (finding the missing number, modeling simple situations with number sentences) ----- ○ — ○ — ○
- ATBM06AH h) Number patterns (extending number patterns and finding missing terms) ----- ○ — ○ — ○

B. Geometric Shapes and Measures

- ATBM06BA a) Lines: measuring, estimating length of; parallel and perpendicular lines ----- ○ — ○ — ○
- ATBM06BB b) Comparing and drawing angles ----- ○ — ○ — ○
- ATBM06BC c) Using informal coordinate systems to locate points in a plane (e.g., in square B4) ----- ○ — ○ — ○
- ATBM06BD d) Elementary properties of common geometric shapes ----- ○ — ○ — ○
- ATBM06BE e) Reflections and rotations ----- ○ — ○ — ○
- ATBM06BF f) Relationships between two-dimensional and three-dimensional shapes ----- ○ — ○ — ○
- ATBM06BG g) Finding and estimating areas, perimeters, and volumes ----- ○ — ○ — ○

C. Data Display

- ATBM06CA a) Reading and representing data from tables, pictographs, bar graphs, or pie charts ----- ○ — ○ — ○
- ATBM06CB b) Drawing conclusions from data displays ----- ○ — ○ — ○

Mathematics Homework for the TIMSS Class

Mathematics Assessment of the TIMSS Class

M7

M8


ATBM07A

A. How often do you usually assign mathematics homework to the students in this class?

How much emphasis do you place on the following sources to monitor students' progress in mathematics?

Check **one** circle only.

Check **one** circle for each line.

I do not assign mathematics homework --- 
(Go to #M8)

Less than once a week ---

1 or 2 times a week ---

3 or 4 times a week ---

Every day ---

Major emphasis
Some emphasis
Little or no emphasis

a) Assessment of students' ongoing work ----- --- --- ATBM08A

b) Classroom tests (for example, teacher-made or textbook tests) ----- --- --- ATBM08B

c) National or regional achievement tests ----- --- --- ATBM08C

ATBM07B

B. When you assign mathematics homework to the students in this class, about how many minutes do you usually assign? (Consider the time it would take an average student in your class.)

Check **one** circle only.

15 minutes or less ---

16–30 minutes ---

31–60 minutes ---

More than 60 minutes ---

C. How often do you do the following with the mathematics homework assignments for this class?

Check **one** circle for each line.

Always or almost always
Sometimes
Never or almost never

ATBM07CA

a) Correct assignments and give feedback to students ----- --- ---

ATBM07CB

b) Discuss the homework in class ----- --- ---

ATBM07CC

c) Monitor whether or not the homework was completed ----- --- ---

Preparation to Teach Mathematics

M9

In the past two years, have you participated in professional development in any of the following?

Check **one** circle for each line.

Yes No

- ATBM09A a) Mathematics content ----- --
- ATBM09B b) Mathematics pedagogy/instruction ----- --
- ATBM09C c) Mathematics curriculum ----- --
- ATBM09D d) Integrating information technology into mathematics ----- --
- ATBM09E e) Improving students' critical thinking or problem solving skills ----- --
- ATBM09F f) Mathematics assessment ----- --
- ATBM09G g) Addressing individual students' needs ----- --

M10

In the past two years, how many hours in total have you spent in formal <in-service/professional development> (e.g., workshops, seminars, etc.) for mathematics?

Check **one** circle only.

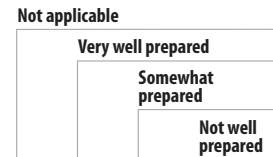
- None ---
- Less than 6 hours ---
- 6–15 hours ---
- 16–35 hours ---
- More than 35 hours ---

ATBM10

M11

**How well prepared do you feel you are to teach the following mathematics topics?
If a topic is not in the <fourth grade> curriculum or you are not responsible for teaching this topic, please choose
“Not applicable.”**

Check **one** circle for each line.



A. Number

- ATBM11AA a) Concepts of whole numbers, including place value and ordering ----- ○ — ○ — ○ — ○
- ATBM11AB b) Adding, subtracting, multiplying, and/or dividing with whole numbers ----- ○ — ○ — ○ — ○
- ATBM11AC c) Concepts of multiples and factors; odd and even numbers ----- ○ — ○ — ○ — ○
- ATBM11AD d) Concepts of fractions (fractions as parts of a whole or of a collection, or as a location on a number line) ----- ○ — ○ — ○ — ○
- ATBM11AE e) Adding and subtracting with fractions, comparing and ordering fractions ----- ○ — ○ — ○ — ○
- ATBM11AF f) Concepts of decimals, including place value and ordering, adding and subtracting with decimals ----- ○ — ○ — ○ — ○
- ATBM11AG g) Number sentences (finding the missing number, modeling simple situations with number sentences) ----- ○ — ○ — ○ — ○
- ATBM11AH h) Number patterns (extending number patterns and finding missing terms) ----- ○ — ○ — ○ — ○

B. Geometric Shapes and Measures

- ATBM11BA a) Lines: measuring, estimating length of; parallel and perpendicular lines ----- ○ — ○ — ○ — ○
- ATBM11BB b) Comparing and drawing angles ----- ○ — ○ — ○ — ○
- ATBM11BC c) Using informal coordinate systems to locate points in a plane (e.g., in square B4) ----- ○ — ○ — ○ — ○
- ATBM11BD d) Elementary properties of common geometric shapes ----- ○ — ○ — ○ — ○
- ATBM11BE e) Reflections and rotations ----- ○ — ○ — ○ — ○
- ATBM11BF f) Relationships between two-dimensional and three-dimensional shapes ----- ○ — ○ — ○ — ○
- ATBM11BG g) Finding and estimating areas, perimeters, and volumes ----- ○ — ○ — ○ — ○

C. Data Display

- ATBM11CA a) Reading and representing data from tables, pictographs, bar graphs, or pie charts ----- ○ — ○ — ○ — ○
- ATBM11CB b) Drawing conclusions from data displays ----- ○ — ○ — ○ — ○

Teaching Science to the TIMSS Class

S1

ATBS01A

A. Is science taught mainly as a separate subject (i.e., not integrated with other subjects) to the students in this class?

Check **one** circle only.

Yes ---

No ---

ATBS01B

B. Please estimate the time that you spend on science topics with students in this class.

_____ minutes per week

Write in the number of minutes per week.

Please convert the number of hours into minutes.

S2

In teaching science to this class, how would you characterize your confidence in doing the following?

Check **one** circle for each line.

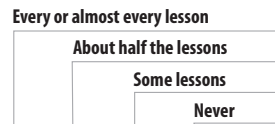
- | | | |
|---|---|---------|
| | | |
| a) Inspiring students to learn science ----- | <input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/> | ATBS02A |
| b) Explaining science concepts or principles by doing science experiments ----- | <input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/> | ATBS02B |
| c) Providing challenging tasks for the highest achieving students ----- | <input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/> | ATBS02C |
| d) Adapting my teaching to engage students' interest ----- | <input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/> | ATBS02D |
| e) Helping students appreciate the value of learning science ----- | <input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/> | ATBS02E |
| f) Assessing student comprehension of science ----- | <input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/> | ATBS02F |
| g) Improving the understanding of struggling students ----- | <input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/> | ATBS02G |
| h) Making science relevant to students ----- | <input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/> | ATBS02H |
| i) Developing students' higher-order thinking skills ----- | <input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/> | ATBS02I |
| j) Teaching science using inquiry methods ----- | <input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/> | ATBS02J |

Using Computers for Teaching Science to the TIMSS Class

S3

In teaching science to the students in this class, how often do you ask them to do the following?

Check **one** circle for each line.

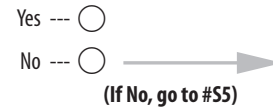


- ATBS03A a) Listen to me explain new science content ----- - - -
- ATBS03B b) Observe natural phenomena such as the weather or a plant growing and describe what they see ----- - - -
- ATBS03C c) Watch me demonstrate an experiment or investigation --- - - -
- ATBS03D d) Design or plan experiments or investigations ----- - - -
- ATBS03E e) Conduct experiments or investigations ----- - - -
- ATBS03F f) Present data from experiments or investigations ----- - - -
- ATBS03G g) Interpret data from experiments or investigations ----- - - -
- ATBS03H h) Use evidence from experiments or investigations to support conclusions ----- - - -
- ATBS03I i) Read their textbooks or other resource materials ----- - - -
- ATBS03J j) Have students memorize facts and principles ----- - - -
- ATBS03K k) Do field work outside the class - - -
- ATBS03L l) Take a written test or quiz ----- - - -
- ATBS03M m) Work in mixed ability groups -- - - -
- ATBS03N n) Work in same ability groups -- - - -

S4

A. Do the students in this class have computers (including tablets) available to use during their science lessons?

Check **one** circle only.



ATBS04A

If Yes,

B. What access do the students have to computers?

Check **one** circle for each line.



- a) Each student has a computer ----- -
- b) The class has computers that students can share ----- -
- c) The school has computers that the class can use sometimes ----- -

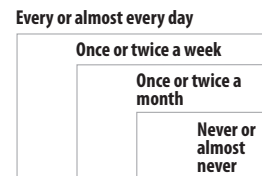
ATBS04BA

ATBS04BB

ATBS04BC

C. How often do you have the students do the following activities on computers during science lessons?

Check **one** circle for each line.



- a) Practice skills and procedures - - - -
- b) Look up ideas and information ----- - - -
- c) Do scientific procedures or experiments ----- - - -
- d) Study natural phenomena through simulations ----- - - -

ATBS04CA

ATBS04CB

ATBS04CC

ATBS04CD

Science Topics Taught to the TIMSS Class

S5

The following list includes the main topics addressed by the TIMSS science test. Choose the response that best describes when the students in this class have been taught each topic. If a topic was in the curriculum before the <fourth grade>, please choose "Mostly taught before this year." If a topic was taught half this year but not yet completed, please choose "Mostly taught this year." If a topic is not in the curriculum, please choose "Not yet taught or just introduced."

Check **one** circle for each line.



A. Life Science

- ATBS05AA a) Characteristics of living things and the major groups of living things (e.g., mammals, birds, insects, flowering plants) ----- — —
- ATBS05AB b) Major body structures and their functions in humans, other animals, and plants ----- — —
- ATBS05AC c) Life cycles of common plants and animals (e.g., humans, butterflies, frogs, flowering plants) ----- — —
- ATBS05AD d) Understanding that some characteristics are inherited and some are the result of the environment ----- — —
- ATBS05AE e) How physical features and behaviors help living things survive in their environments ----- — —
- ATBS05AF f) Relationships in communities and ecosystems (e.g., simple food chains, predator-prey relationships, human impacts on the environment) ----- — —
- ATBS05AG g) Human health (transmission and prevention of diseases, symptoms of health and illness, importance of a healthy diet and exercise) ----- — —

B. Physical Science

- ATBS05BA a) States of matter (solid, liquid, gas) and properties of the states of matter (volume, shape); how the state of matter changes by heating or cooling ----- — —
- ATBS05BB b) Classifying materials based on physical properties (e.g., weight/mass, volume, conducting heat, conducting electricity, magnetic attraction) ----- — —
- ATBS05BC c) Mixtures and how to separate a mixture into its components (e.g., sifting, filtering, evaporation, using a magnet) ----- — —
- ATBS05BD d) Chemical changes in everyday life (e.g., decaying, burning, rusting, cooking) ----- — —
- ATBS05BE e) Common sources of energy (e.g., the Sun, electricity, wind) and uses of energy (heating and cooling homes, providing light) ----- — —
- ATBS05BF f) Light and sound in everyday life (e.g., understanding shadows and reflection, understanding that vibrating objects make sound) ----- — —
- ATBS05BG g) Electricity and simple circuits (e.g., identifying materials that are conductors, recognizing that electricity can be changed to light or sound, knowing that a circuit must be complete to work correctly) ----- — —
- ATBS05BH h) Properties of magnets (e.g., knowing that like poles repel and opposite poles attract, recognizing that magnets can attract some objects) ----- — —
- ATBS05BI i) Forces that cause objects to move (e.g., gravity, pushing/pulling) ----- — —

S5 (continued)

Choose the response that best describes when the students in this class have been taught each topic. If a topic was in the curriculum before the <fourth grade>, please choose "Mostly taught before this year." If a topic was taught half this year but not yet completed, please choose "Mostly taught this year." If a topic is not in the curriculum, please choose "Not yet taught or just introduced."

Check **one** circle for each line.



C. Earth Science

- ATBS05CA a) Common features of the Earth's landscape (e.g., mountains, plains, deserts, rivers, oceans) and their relationship to human use (farming, irrigation, land development) ----- — —
- ATBS05CB b) Where water is found on the Earth and how it moves in and out of the air (e.g., evaporation, rainfall, cloud formation, dew formation) ----- — —
- ATBS05CC c) Understanding that weather can change from day to day, from season to season, and by geographic location ----- — —
- ATBS05CD d) Understanding what fossils are and what they can tell us about past conditions on Earth----- — —
- ATBS05CE e) Objects in the solar system (the Sun, the Earth, the Moon, and other planets) and their movements (the Earth and other planets revolve around the Sun, the Moon revolves around the Earth)----- — —
- ATBS05CF f) Understanding how day and night result from the Earth's rotation on its axis and how the Earth's rotation results in changing shadows throughout the day ----- — —
- ATBS05CG g) Understanding how seasons are related to the Earth's annual movement around the Sun ----- — —

**Science Homework
for the TIMSS Class**

**Science Assessment
of the TIMSS Class**

S6

S7


ATBS06A

A. How often do you usually assign science homework to the students in this class?

How much emphasis do you place on the following sources to monitor students' progress in science?

Check **one** circle only.

Check **one** circle for each line.

- I do not assign science homework --- 
(Go to #S7)
- Less than once a week ---
- 1 or 2 times a week ---
- 3 or 4 times a week ---
- Every day ---

- Major emphasis
Some emphasis
Little or no emphasis
- a) Assessment of students' ongoing work ----- --- --- ATBS07A
- b) Classroom tests (for example, teacher-made or textbook tests) ----- --- --- ATBS07B
- c) National or regional achievement tests ----- --- --- ATBS07C

ATBS06B

B. When you assign science homework to the students in this class, about how many minutes do you usually assign? (Consider the time it would take an average student in your class.)

Check **one** circle only.

- 15 minutes or less ---
- 16–30 minutes ---
- 31–60 minutes ---
- More than 60 minutes ---

C. How often do you do the following with the science homework assignments for this class?

Check **one** circle for each line.

Always or almost always
Sometimes
Never or almost never

- ATBS06CA a) Correct assignments and give feedback to students ----- --- ---
- ATBS06CB b) Discuss the homework in class ----- --- ---
- ATBS06CC c) Monitor whether or not the homework was completed ----- --- ---

Preparation to Teach Science

S8

In the past two years, have you participated in professional development in any of the following?

Check **one** circle for each line.

Yes No

- ATBS08A a) Science content ----- --
- ATBS08B b) Science pedagogy/instruction ----- --
- ATBS08C c) Science curriculum ----- --
- ATBS08D d) Integrating information
technology into science ----- --
- ATBS08E e) Improving students' critical thinking or
inquiry skills ----- --
- ATBS08F f) Science assessment ----- --
- ATBS08G g) Addressing individual students' needs ----- --
- ATBS08H h) Integrating science with other subjects
(e.g., mathematics, technology)----- --

S9

In the past two years, how many hours in total have you spent in formal <in-service/professional development> (e.g., workshops, seminars, etc.) for science?

ATBS09

Check **one** circle only.

- None ---
- Less than 6 hours ---
- 6–15 hours ---
- 16–35 hours ---
- More than 35 hours ---

S10

**How well prepared do you feel you are to teach the following science topics?
If a topic is not in the <fourth grade> curriculum or you are not responsible for teaching this topic, please choose
“Not applicable.”**

Check **one** circle for each line.

Not applicable
Very well prepared
Somewhat prepared
Not well prepared

A. Life Science

- ATBS10AA a) Characteristics of living things and the major groups of living things (e.g., mammals, birds, insects, flowering plants)-----○—○—○—○
- ATBS10AB b) Major body structures and their functions in humans, other animals, and plants-----○—○—○—○
- ATBS10AC c) Life cycles of common plants and animals (e.g., humans, butterflies, frogs, flowering plants)-----○—○—○—○
- ATBS10AD d) Understanding that some characteristics are inherited and some are the result of the environment-----○—○—○—○
- ATBS10AE e) How physical features and behaviors help living things survive in their environments-----○—○—○—○
- ATBS10AF f) Relationships in communities and ecosystems (e.g., simple food chains, predator-prey relationships, human impacts on the environment)-----○—○—○—○
- ATBS10AG g) Human health (transmission and prevention of diseases, symptoms of health and illness, importance of a healthy diet and exercise)-----○—○—○—○

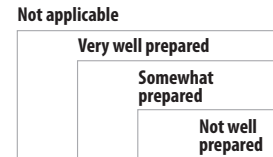
B. Physical Science

- ATBS10BA a) States of matter (solid, liquid, gas) and properties of the states of matter (volume, shape); how the state of matter changes by heating or cooling-----○—○—○—○
- ATBS10BB b) Classifying materials based on physical properties (e.g., weight/mass, volume, conducting heat, conducting electricity, magnetic attraction)-----○—○—○—○
- ATBS10BC c) Mixtures and how to separate a mixture into its components (e.g., sifting, filtering, evaporation, using a magnet)-----○—○—○—○
- ATBS10BD d) Chemical changes in everyday life (e.g., decaying, burning, rusting, cooking)-----○—○—○—○
- ATBS10BE e) Common sources of energy (e.g., the Sun, electricity, wind) and uses of energy (heating and cooling homes, providing light)-----○—○—○—○
- ATBS10BF f) Light and sound in everyday life (e.g., understanding shadows and reflection, understanding that vibrating objects make sound)-----○—○—○—○
- ATBS10BG g) Electricity and simple circuits (e.g., identifying materials that are conductors, recognizing that electricity can be changed to light or sound, knowing that a circuit must be complete to work correctly)-----○—○—○—○
- ATBS10BH h) Properties of magnets (e.g., knowing that like poles repel and opposite poles attract, recognizing that magnets can attract some objects)-----○—○—○—○
- ATBS10BI i) Forces that cause objects to move (e.g., gravity, pushing/pulling)-----○—○—○—○

S10 (continued)

**How well prepared do you feel you are to teach the following science topics?
If a topic is not in the <fourth grade> curriculum or you are not responsible for teaching this topic, please choose
"Not applicable."**

Check **one** circle for each line.



C. Earth Science

- | | | | | | |
|----------|---|---|---|---|---|
| ATBS10CA | a) Common features of the Earth's landscape (e.g., mountains, plains, deserts, rivers, oceans) and their relationship to human use (farming, irrigation, land development) ----- | ○ | ○ | ○ | ○ |
| ATBS10CB | b) Where water is found on the Earth and how it moves in and out of the air (e.g., evaporation, rainfall, cloud formation, dew formation) ----- | ○ | ○ | ○ | ○ |
| ATBS10CC | c) Understanding that weather can change from day to day, from season to season, and by geographic location ----- | ○ | ○ | ○ | ○ |
| ATBS10CD | d) Understanding what fossils are and what they can tell us about past conditions on Earth ----- | ○ | ○ | ○ | ○ |
| ATBS10CE | e) Objects in the solar system (the Sun, the Earth, the Moon, and other planets) and their movements (the Earth and other planets revolve around the Sun, the Moon revolves around the Earth) ----- | ○ | ○ | ○ | ○ |
| ATBS10CF | f) Understanding how day and night result from the Earth's rotation on its axis and how the Earth's rotation results in changing shadows throughout the day ----- | ○ | ○ | ○ | ○ |
| ATBS10CG | g) Understanding how seasons are related to the Earth's annual movement around the Sun ----- | ○ | ○ | ○ | ○ |

Thank You

Thank you for the thought, time, and effort you have put into completing this questionnaire.





BOSTON
COLLEGE

**TIMSS
2015**

TRENDS IN INTERNATIONAL MATHEMATICS AND SCIENCE STUDY

Teacher Questionnaire

<Grade 4>



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International Association
for the Evaluation of
Educational Achievement

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TIMSS
2015

SECTION 4:
FOURTH GRADE –
SCHOOL
QUESTIONNAIRE

TIMSS 2015 USER GUIDE FOR THE
INTERNATIONAL DATABASE



IEA

TIMSS & PIRLS
International Study Center
Lynch School of Education, Boston College

Exhibit S1.4: Index of International Background Variables for the TIMSS 2015 School Questionnaire - Fourth Grade

TIMSS 2015 Question Number	TIMSS 2015 Variable Name	TIMSS 2015 Variable Description (See questionnaire for full item text)	TIMSS 2011 Variable Name	Notes
ScQ-01	ACBG01	What is the total enrollment of students in your school as of <first day of month TIMSS testing begins, 2015>?	ACBG01	Combined with PIRLS in 2011
ScQ-02	ACBG02	What is the total enrollment of <fourth grade> students in your school as of <first day of month TIMSS testing begins, 2015>?	ACBG02	Combined with PIRLS in 2011
ScQ-03a	ACBG03A	Approximately what percentage of students in your school have the following backgrounds? Come from economically disadvantaged homes	ACBG03A	
ScQ-03b	ACBG03B	Approximately what percentage of students in your school have the following backgrounds? Come from economically affluent homes	ACBG03B	
ScQ-04	ACBG04	Approximately what percentage of students in your school have <language of test> as their native language?	ACBG04	
ScQ-05A	ACBG05A	How many people live in the city, town, or area where your school is located?	ACBG05A	Modified response options in 2015
ScQ-05B	ACBG05B	Which best describes the immediate area in which your school is located?	ACBG05B	
ScQ-06a	ACBG06A	Does your school provide free meals for students? Breakfast		
ScQ-06b	ACBG06B	Does your school provide free meals for students? Lunch		
ScQ-07a	ACBG07A	To what degree are the following health topics emphasized in your school? Washing hands		
ScQ-07b	ACBG07B	To what degree are the following health topics emphasized in your school? Brushing teeth		
ScQ-07c	ACBG07C	To what degree are the following health topics emphasized in your school? A healthy diet/nutrition		
ScQ-07d	ACBG07D	To what degree are the following health topics emphasized in your school? Disease prevention		
ScQ-08A	ACBG08A	For the <fourth grade> students in your school: How many days per year is your school open for instruction?	ACBG06A	
ScQ-08B	ACBG08B	For the <fourth grade> students in your school: What is the total instructional time, excluding breaks, in a typical day? (minutes)	ACBG06BA ACBG06BB	Hours and minutes separate variables in 2011
ScQ-08C	ACBG08C	For the <fourth grade> students in your school: In one calendar week, how many days is the school open for instruction?	ACBG06C	
ScQ-09A	ACBG09A	Does your school provide a place where students can work on their schoolwork before or after school?		
ScQ-09B	ACBG09B	(If Yes) Is someone available to assist them with their schoolwork?		
ScQ-10a	ACBG10A	As a general school policy, is student achievement used to assign <fourth grade> students to classes? For mathematics classes		
ScQ-10b	ACBG10B	As a general school policy, is student achievement used to assign <fourth grade> students to classes? For science classes		
ScQ-11	ACBG11	How many computers (including tablets) does your school have for use by <fourth grade> students?	ACBG07	Modified wording in 2015
ScQ-12A	ACBG12A	Does your school have a science laboratory that can be used by <fourth grade> students?	ACBG08A	
ScQ-12B	ACBG12B	Do teachers usually have assistance available when students are conducting science experiments?		
ScQ-13	ACBG13	Does your school have a school library?	ACBG09	
ScQ-13Aa	ACBG13AA	Approximately how many books (print and digital) with different titles does your school library have? Print	ACBG09A	Modified wording and response options in 2015
ScQ-13Ab	ACBG13AB	Approximately how many books (print and digital) with different titles does your school library have? Digital		
ScQ-13Ba	ACBG13BA	Approximately how many titles of magazines and other periodicals (print and digital) does your school library have? Print	ACBG09B	Modified wording and response options in 2015

Exhibit S1.4: Index of International Background Variables for the TIMSS 2015 School Questionnaire - Fourth Grade (Continued)

TIMSS 2015 Question Number	TIMSS 2015 Variable Name	TIMSS 2015 Variable Description (See questionnaire for full item text)	TIMSS 2011 Variable Name	Notes
ScQ-13Bb	ACBG13BB	Approximately how many titles of magazines and other periodicals (print and digital) does your school library have? Digital		
ScQ-14Aa	ACBG14AA	How much is your school's capacity to provide instruction affected by a shortage or inadequacy of the following? General School Resources: Instructional materials	ACBG10AA	
ScQ-14Ab	ACBG14AB	How much is your school's capacity to provide instruction affected by a shortage or inadequacy of the following? General School Resources: Supplies (e.g., papers, pencils, materials)	ACBG10AB	Modified wording in 2015
ScQ-14Ac	ACBG14AC	How much is your school's capacity to provide instruction affected by a shortage or inadequacy of the following? General School Resources: School buildings and grounds	ACBG10AC	
ScQ-14Ad	ACBG14AD	How much is your school's capacity to provide instruction affected by a shortage or inadequacy of the following? General School Resources: Heating/cooling and lighting systems	ACBG10AD	
ScQ-14Ae	ACBG14AE	How much is your school's capacity to provide instruction affected by a shortage or inadequacy of the following? General School Resources: Instructional space	ACBG10AE	
ScQ-14Af	ACBG14AF	How much is your school's capacity to provide instruction affected by a shortage or inadequacy of the following? General School Resources: Technologically competent staff	ACBG10AF	
ScQ-14Ag	ACBG14AG	How much is your school's capacity to provide instruction affected by a shortage or inadequacy of the following? General School Resources: Audio-visual resources for delivery of instruction		
ScQ-14Ah	ACBG14AH	How much is your school's capacity to provide instruction affected by a shortage or inadequacy of the following? General School Resources: Computer technology for teaching and learning		
ScQ-14Ai	ACBG14AI	How much is your school's capacity to provide instruction affected by a shortage or inadequacy of the following? General School Resources: Resources for students with disabilities		
ScQ-14Ba	ACBG14BA	How much is your school's capacity to provide instruction affected by a shortage or inadequacy of the following? Resources for Mathematics Instruction: Teachers with a specialization in mathematics	ACBG10CA	
ScQ-14Bb	ACBG14BB	How much is your school's capacity to provide instruction affected by a shortage or inadequacy of the following? Resources for Mathematics Instruction: Computer software/applications for mathematics instruction	ACBG10CB	Modified wording in 2015
ScQ-14Bc	ACBG14BC	How much is your school's capacity to provide instruction affected by a shortage or inadequacy of the following? Resources for Mathematics Instruction: Library resources relevant to mathematics instruction	ACBG10CC	Modified wording in 2015
ScQ-14Bd	ACBG14BD	How much is your school's capacity to provide instruction affected by a shortage or inadequacy of the following? Resources for Mathematics Instruction: Calculators for mathematics instruction	ACBG10CE	
ScQ-14Be	ACBG14BE	How much is your school's capacity to provide instruction affected by a shortage or inadequacy of the following? Resources for Mathematics Instruction: Concrete objects or materials to help students understand quantities or procedures		
ScQ-14Ca	ACBG14CA	How much is your school's capacity to provide instruction affected by a shortage or inadequacy of the following? Resources for Science Instruction: Teachers with a specialization in science	ACBG10DA	
ScQ-14Cb	ACBG14CB	How much is your school's capacity to provide instruction affected by a shortage or inadequacy of the following? Resources for Science Instruction: Computer software/applications for science instruction	ACBG10DB	Modified wording in 2015
ScQ-14Cc	ACBG14CC	How much is your school's capacity to provide instruction affected by a shortage or inadequacy of the following? Resources for Science Instruction: Library resources relevant to science instruction	ACBG10DC	Modified wording in 2015

**Exhibit S1.4: Index of International Background Variables for the TIMSS 2015 School Questionnaire - Fourth Grade
(Continued)**

TIMSS 2015 Question Number	TIMSS 2015 Variable Name	TIMSS 2015 Variable Description (See questionnaire for full item text)	TIMSS 2011 Variable Name	Notes
ScQ-14Cd	ACBG14CD	How much is your school's capacity to provide instruction affected by a shortage or inadequacy of the following? Resources for Science Instruction: Science equipment and materials for experiments	ACBG10DE	Modified wording in 2015
ScQ-15a	ACBG15A	How would you characterize each of the following within your school? Teachers' understanding of the school's curricular goals	ACBG12B	
ScQ-15b	ACBG15B	How would you characterize each of the following within your school? Teachers' degree of success in implementing the school's curriculum	ACBG12C	
ScQ-15c	ACBG15C	How would you characterize each of the following within your school? Teachers' expectations for student achievement	ACBG12D	
ScQ-15d	ACBG15D	How would you characterize each of the following within your school? Teachers working together to improve student achievement		
ScQ-15e	ACBG15E	How would you characterize each of the following within your school? Teachers' ability to inspire students		
ScQ-15f	ACBG15F	How would you characterize each of the following within your school? Parental involvement in school activities	ACBG12F	
ScQ-15g	ACBG15G	How would you characterize each of the following within your school? Parental commitment to ensure that students are ready to learn		
ScQ-15h	ACBG15H	How would you characterize each of the following within your school? Parental expectations for student achievement		
ScQ-15i	ACBG15I	How would you characterize each of the following within your school? Parental support for student achievement	ACBG12E	
ScQ-15j	ACBG15J	How would you characterize each of the following within your school? Parental pressure for the school to maintain high academic standards		
ScQ-15k	ACBG15K	How would you characterize each of the following within your school? Students' desire to do well in school	ACBG12H	
ScQ-15l	ACBG15L	How would you characterize each of the following within your school? Students' ability to reach school's academic goals		
ScQ-15m	ACBG15M	How would you characterize each of the following within your school? Students' respect for classmates who excel in school		
ScQ-16a	ACBG16A	To what degree is each of the following a problem among <fourth grade> students in your school? Arriving late at school	ACBG13AA	
ScQ-16b	ACBG16B	To what degree is each of the following a problem among <fourth grade> students in your school? Absenteeism	ACBG13AB	
ScQ-16c	ACBG16C	To what degree is each of the following a problem among <fourth grade> students in your school? Classroom disturbance	ACBG13AC	
ScQ-16d	ACBG16D	To what degree is each of the following a problem among <fourth grade> students in your school? Cheating	ACBG13AD	
ScQ-16e	ACBG16E	To what degree is each of the following a problem among <fourth grade> students in your school? Profanity	ACBG13AE	
ScQ-16f	ACBG16F	To what degree is each of the following a problem among <fourth grade> students in your school? Vandalism	ACBG13AF	
ScQ-16g	ACBG16G	To what degree is each of the following a problem among <fourth grade> students in your school? Theft	ACBG13AG	
ScQ-16h	ACBG16H	To what degree is each of the following a problem among <fourth grade> students in your school? Intimidation or verbal abuse among students	ACBG13AH	
ScQ-16i	ACBG16I	To what degree is each of the following a problem among <fourth grade> students in your school? Physical fights among students	ACBG13AI	
ScQ-16j	ACBG16J	To what degree is each of the following a problem among <fourth grade> students in your school? Intimidation or verbal abuse of teachers or staff	ACBG13AJ	
ScQ-17a	ACBG17A	To what degree is each of the following a problem among teachers in your school? Arriving late or leaving early	ACBG13BA	
ScQ-17b	ACBG17B	To what degree is each of the following a problem among teachers in your school? Absenteeism	ACBG13BB	

Exhibit S1.4: Index of International Background Variables for the TIMSS 2015 School Questionnaire - Fourth Grade (Continued)

TIMSS 2015 Question Number	TIMSS 2015 Variable Name	TIMSS 2015 Variable Description (See questionnaire for full item text)	TIMSS 2011 Variable Name	Notes
ScQ-18a	ACBG18A	About how many of the students in your school can do the following when they begin the <first grade> of primary/elementary school? Recognize most of the letters of the alphabet	ACBG16A	Modified wording in 2015
ScQ-18b	ACBG18B	About how many of the students in your school can do the following when they begin the <first grade> of primary/elementary school? Read some words	ACBG16B	Modified wording in 2015
ScQ-18c	ACBG18C	About how many of the students in your school can do the following when they begin the <first grade> of primary/elementary school? Read sentences	ACBG16C	Modified wording in 2015
ScQ-18d	ACBG18D	About how many of the students in your school can do the following when they begin the <first grade> of primary/elementary school? Write letters of the alphabet	ACBG16D	Modified wording in 2015
ScQ-18e	ACBG18E	About how many of the students in your school can do the following when they begin the <first grade> of primary/elementary school? Write some words	ACBG16E	Modified wording in 2015
ScQ-18f	ACBG18F	About how many of the students in your school can do the following when they begin the <first grade> of primary/elementary school? Count up to 100 or higher	ACBG16F	Modified wording in 2015
ScQ-18g	ACBG18G	About how many of the students in your school can do the following when they begin the <first grade> of primary/elementary school? Recognize written numbers from 1-10	ACBG16G	Modified wording in 2015
ScQ-18h	ACBG18H	About how many of the students in your school can do the following when they begin the <first grade> of primary/elementary school? Recognize written numbers higher than 10		Modified wording in 2015
ScQ-18i	ACBG18I	About how many of the students in your school can do the following when they begin the <first grade> of primary/elementary school? Write numbers from 1-10	ACBG16H	Modified wording in 2015
ScQ-18j	ACBG18J	About how many of the students in your school can do the following when they begin the <first grade> of primary/elementary school? Do simple addition		Modified wording in 2015
ScQ-18k	ACBG18K	About how many of the students in your school can do the following when they begin the <first grade> of primary/elementary school? Do simple subtraction		Modified wording in 2015
ScQ-19	ACBG19	By the end of this school year, how many years will you have been a principal altogether?		
ScQ-20	ACBG20	By the end of this school year, how many years will you have been a principal at this school?		
ScQ-21	ACBG21	What is the highest level of formal education you have completed?		
ScQ-22a	ACBG22A	Do you hold the following degrees in educational leadership? <Master's or equivalent level—ISCED Level 7>		
ScQ-22b	ACBG22B	Do you hold the following degrees in educational leadership? <Doctor or equivalent level—ISCED Level 8>		



Identification Label

TRENDS IN INTERNATIONAL MATHEMATICS AND SCIENCE STUDY

School Questionnaire

<Grade 4>

<TIMSS National Research Center Name>

<Address>



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Lynch School of Education, Boston College

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Lynch School of Education, Boston College

School Questionnaire

Your school has agreed to participate in TIMSS 2015 (Trends in International Mathematics and Science Study), an educational research project sponsored by the International Association for the Evaluation of Educational Achievement (IEA). TIMSS measures trends in student achievement in mathematics and science and studies differences in national education systems in almost 60 countries in order to help improve teaching and learning worldwide.

This questionnaire is addressed to school principals and department heads who are asked to supply information about their schools. Since your school has been selected as part of a nationwide sample, your responses are very important in helping to describe primary/elementary education in <country>.

It is important that you answer each question carefully so that the information provided reflects the situation in your school as accurately as possible. Some of the questions will require that you look up school records, so you may wish to arrange for the assistance of another staff member to help provide this information.

Since TIMSS is an international study and all countries are using the same questionnaire, you may find that some of the questions seem unusual or are not entirely relevant to you or schools in <country>. Nevertheless, it is important that you do your best to answer all of the questions so comparisons can be made across countries in the study.

It is estimated that you will need approximately 30 minutes to complete this questionnaire. We appreciate the time and effort that this takes and thank you for your cooperation and contribution.

When you have completed the questionnaire, please place it in the accompanying envelope and return it to:

<Insert country-specific information here>.

Thank you.

TIMSS 2015

School Enrollment and Characteristics

1

ACBG01

What is the total enrollment of students in your school as of <first day of month TIMSS testing begins, 2015>?

_____ students
Write in the number.

2

ACBG02

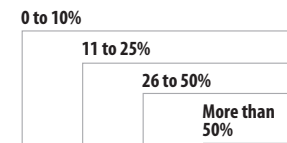
What is the total enrollment of <fourth grade> students in your school as of <first day of month TIMSS testing begins, 2015>?

_____ students
Write in the number.

3

Approximately what percentage of students in your school have the following backgrounds?

Check **one** circle for each line.



ACBG03A

a) Come from economically disadvantaged homes -----

ACBG03B

b) Come from economically affluent homes -----

4

ACBG04

Approximately what percentage of students in your school have <language of test> as their native language?

Check **one** circle only.

- More than 90% ---
- 76 to 90% ---
- 51 to 75% ---
- 26 to 50% ---
- 25% or less ---

5

A. How many people live in the city, town, or area where your school is located?

ACBG05A

Check **one** circle only.

- More than 500,000 people ---
- 100,001 to 500,000 people ---
- 50,001 to 100,000 people ---
- 30,001 to 50,000 people ---
- 15,001 to 30,000 people ---
- 3,001 to 15,000 people ---
- 3,000 people or fewer ---

B. Which best describes the immediate area in which your school is located?

ACBG05B

Check **one** circle only.

- Urban—Densely populated ---
- Suburban—On fringe or outskirts of urban area ---
- Medium size city or large town ---
- Small town or village ---
- Remote rural ---



6 **Does your school provide free meals for students?**

Check **one** circle for each line.

Yes, for all students
Yes, for some students
No

- ACBG06A a) Breakfast ----- — —
- ACBG06B b) Lunch ----- — —

7 **To what degree are the following health topics emphasized in your school?**

Check **one** circle for each line.

Very high
High
Medium
Low

- ACBG07A a) Washing hands ----- — — —
- ACBG07B b) Brushing teeth ----- — — —
- ACBG07C c) A healthy diet/nutrition ----- — — —
- ACBG07D d) Disease prevention ----- — — —

Instructional Time

8

For the <fourth grade> students in your school:

ACBG08A

A. How many days per year is your school open for instruction?

_____ days
Write in the number.

ACBG08B

B. What is the total instructional time, excluding breaks, in a typical day?

_____ minutes
Write in the number of minutes per day.
Please convert the number of hours into minutes.

ACBG08C

C. In one calendar week, how many days is the school open for instruction?

Check **one** circle only.

- 6 days ---
- 5 1/2 days ---
- 5 days ---
- 4 1/2 days ---
- 4 days ---
- Other ---

9

ACBG09A

A. Does your school provide a place where students can work on their schoolwork before or after school?

Check **one** circle only.

- Yes ---
 - No ---
- (If No, go to #10)

ACBG09B

If Yes,

B. Is someone available to assist them with their schoolwork?

Check **one** circle only.

- Yes ---
- No ---

10

As a general school policy, is student achievement used to assign <fourth grade> students to classes (e.g., streaming, tracking, setting)?

Check **one** circle for each line.

- | | | | | |
|----------------------------------|-----------------------|-------|-----------------------|--|
| | | Yes | No | |
| a) For mathematics classes ----- | <input type="radio"/> | ----- | <input type="radio"/> | |
| b) For science classes ----- | <input type="radio"/> | ----- | <input type="radio"/> | |

ACBG10A

ACBG10B

Resources and Technology

11 **ACBG11** How many computers (including tablets) does your school have for use by <fourth grade> students?

_____ computers
Write in the number.

12 **ACBG12A** **A. Does your school have a science laboratory that can be used by <fourth grade> students?**

Check **one** circle only.

Yes ---
No ---


ACBG12B **B. Do teachers usually have assistance available when students are conducting science experiments?**

Check **one** circle only.

Yes ---
No ---

13 **ACBG13** Does your school have a school library?

Check **one** circle only.

Yes ---
No --- 
(If No, go to #14)

If Yes,

A. Approximately how many books (print and digital) with different titles does your school library have (exclude magazines and periodicals)?

Check **one** circle in each column.

Print	Digital
250 or fewer --- <input type="radio"/>	<input type="radio"/>
251–500 --- <input type="radio"/>	<input type="radio"/>
501–2,000 --- <input type="radio"/>	<input type="radio"/>
2,001–5,000 --- <input type="radio"/>	<input type="radio"/>
5,001–10,000 --- <input type="radio"/>	<input type="radio"/>
More than 10,000 --- <input type="radio"/>	<input type="radio"/>

B. Approximately how many titles of magazines and other periodicals (print and digital) does your school library have?

Check **one** circle in each column.

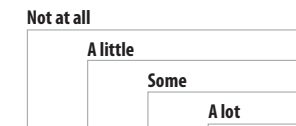
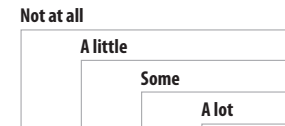
Print	Digital
0 --- <input type="radio"/>	<input type="radio"/>
1–5 --- <input type="radio"/>	<input type="radio"/>
6–10 --- <input type="radio"/>	<input type="radio"/>
11–30 --- <input type="radio"/>	<input type="radio"/>
31 or more --- <input type="radio"/>	<input type="radio"/>

14

How much is your school's capacity to provide instruction affected by a shortage or inadequacy of the following?

Check **one** circle for each line.

Check **one** circle for each line.



A. General School Resources

B. Resources for Mathematics Instruction

- ACBG14AA a) Instructional materials (e.g., textbooks) ----- ○ — ○ — ○ — ○
- ACBG14AB b) Supplies (e.g., papers, pencils, materials) ----- ○ — ○ — ○ — ○
- ACBG14AC c) School buildings and grounds ----- ○ — ○ — ○ — ○
- ACBG14AD d) Heating/cooling and lighting systems ----- ○ — ○ — ○ — ○
- ACBG14AE e) Instructional space (e.g., classrooms) ----- ○ — ○ — ○ — ○
- ACBG14AF f) Technologically competent staff ----- ○ — ○ — ○ — ○
- ACBG14AG g) Audio-visual resources for delivery of instruction (e.g., interactive white boards, digital projectors) ----- ○ — ○ — ○ — ○
- ACBG14AH h) Computer technology for teaching and learning (e.g., computers or tablets for student use) ----- ○ — ○ — ○ — ○
- ACBG14AI i) Resources for students with disabilities ----- ○ — ○ — ○ — ○

- a) Teachers with a specialization in mathematics ----- ○ — ○ — ○ — ○ ACBG14BA
 - b) Computer software/ applications for mathematics instruction ----- ○ — ○ — ○ — ○ ACBG14BB
 - c) Library resources relevant to mathematics instruction ----- ○ — ○ — ○ — ○ ACBG14BC
 - d) Calculators for mathematics instruction ----- ○ — ○ — ○ — ○ ACBG14BD
 - e) Concrete objects or materials to help students understand quantities or procedures ----- ○ — ○ — ○ — ○ ACBG14BE
- C. Resources for Science Instruction**
- a) Teachers with a specialization in science ----- ○ — ○ — ○ — ○ ACBG14CA
 - b) Computer software/ applications for science instruction ----- ○ — ○ — ○ — ○ ACBG14CB
 - c) Library resources relevant to science instruction ----- ○ — ○ — ○ — ○ ACBG14CC
 - d) Science equipment and materials for experiments ----- ○ — ○ — ○ — ○ ACBG14CD

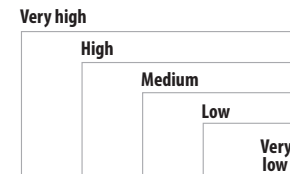
School Emphasis on Academic Success

School Discipline and Safety

15

How would you characterize each of the following within your school?

Check **one** circle for each line.

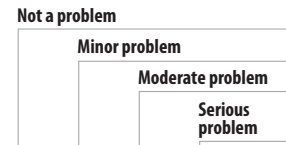


- ACBG15A a) Teachers' understanding of the school's curricular goals
- ACBG15B b) Teachers' degree of success in implementing the school's curriculum
- ACBG15C c) Teachers' expectations for student achievement
- ACBG15D d) Teachers working together to improve student achievement
- ACBG15E e) Teachers' ability to inspire students
- ACBG15F f) Parental involvement in school activities
- ACBG15G g) Parental commitment to ensure that students are ready to learn
- ACBG15H h) Parental expectations for student achievement
- ACBG15I i) Parental support for student achievement
- ACBG15J j) Parental pressure for the school to maintain high academic standards
- ACBG15K k) Students' desire to do well in school
- ACBG15L l) Students' ability to reach school's academic goals
- ACBG15M m) Students' respect for classmates who excel in school

16

To what degree is each of the following a problem among <fourth grade> students in your school?

Check **one** circle for each line.

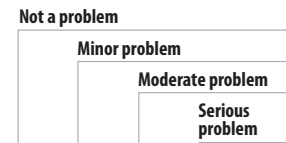


- a) Arriving late at school
- b) Absenteeism (i.e., unjustified absences)
- c) Classroom disturbance
- d) Cheating
- e) Profanity
- f) Vandalism
- g) Theft
- h) Intimidation or verbal abuse among students (including texting, emailing, etc.)
- i) Physical fights among students
- j) Intimidation or verbal abuse of teachers or staff (including texting, emailing, etc.)

17

To what degree is each of the following a problem among teachers in your school?

Check **one** circle for each line.



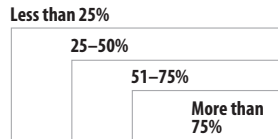
- a) Arriving late or leaving early
- b) Absenteeism

School Readiness

18

About how many of the students in your school can do the following when they begin the <first grade> of primary/elementary school?

Check **one** circle for each line.



- ACBG18A a) Recognize most of the letters of the alphabet -----
- ACBG18B b) Read some words -----
- ACBG18C c) Read sentences -----
- ACBG18D d) Write letters of the alphabet -----
- ACBG18E e) Write some words -----
- ACBG18F f) Count up to 100 or higher -----
- ACBG18G g) Recognize written numbers from 1-10 -----
- ACBG18H h) Recognize written numbers higher than 10 -----
- ACBG18I i) Write numbers from 1-10 -----
- ACBG18J j) Do simple addition -----
- ACBG18K k) Do simple subtraction -----

Principal Experience and Education

19

By the end of this school year, how many years will you have been a principal altogether?

ACBG19

_____ years
Please **round** to the nearest whole number.

20

By the end of this school year, how many years will you have been a principal at this school?

ACBG20

_____ years
Please **round** to the nearest whole number.

21

What is the highest level of formal education you have completed?

ACBG21

Check **one** circle only.

- Did not complete <Bachelor's or equivalent level—ISCED Level 6> ---
- <Bachelor's or equivalent level—ISCED Level 6> ---
- <Master's or equivalent level—ISCED Level 7> ---
- <Doctor or equivalent level—ISCED Level 8> ---

22

Do you hold the following degrees in educational leadership?

Check **one** circle for each line.

- a) <Master's or equivalent level—ISCED Level 7> ----- Yes No
- b) <Doctor or equivalent level—ISCED Level 8> ---

ACBG22A

ACBG22B

Thank You

Thank you for the thought, time, and effort you have put into completing this questionnaire.





BOSTON
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TIMSS
2015

TRENDS IN INTERNATIONAL MATHEMATICS AND SCIENCE STUDY

School Questionnaire

<Grade 4>



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TIMSS
2015

SECTION 5:
FOURTH GRADE –
CURRICULUM
QUESTIONNAIRE

TIMSS 2015 USER GUIDE FOR THE
INTERNATIONAL DATABASE



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Exhibit S1.5: Index of International Variables for the TIMSS 2015 Curriculum Questionnaire - Fourth Grade

TIMSS 2015 Question Number	TIMSS 2015 Variable Name	TIMSS 2015 Variable Description (See questionnaire for full item text)
CQG-01	GEN01	What is your country's name for the grade(s) tested in TIMSS 2015, in English (e.g., grade 4, grade 8)?
CQG-02A	GEN02A	In your country, what is the stated official policy or regulation on students' age of entry to primary school (ISCED Level 1)?
CQG-02B	GEN02B	If the official policy [on age of entry] allows some parental discretion or choice, please describe the usual practice.
CQG-03A	GEN03A	Has the stated official policy [on age of entry] changed in the last 10 years?
CQG-03B	GEN03B	If Yes...How did the policy change, and when was the change made?
CQG-04	GEN04	What are the ages and/or grades of compulsory education in your country?
CQG-05	GEN05	Beginning with ISCED Level 1, what grades of schooling are provided to students through ISCED Level 3 (upper secondary)?
CQG-06	GEN06	Does your country have a policy on the promotion and retention of students across grades 1-8?
CQG-06T	GEN06T	Does your country have a policy on the promotion and retention of students across grades 1-8? Please describe:
CQG-07	GEN07	Does your country have a nationally mandated number of school days per year?
CQG-07T	GEN07T	Does your country have a nationally mandated number of school days per year? Please describe:
CQG-08Aa	GEN08AA	Does your country provide universal ECED or PPE coverage? ECED programs for children under 3
CQG-08Ab	GEN08AB	Does your country provide universal ECED or PPE coverage? PPE programs for children age 3 or older
CQG-08B	GEN08B	How many years can children attend [ECED or PPE] programs altogether?
CQG-08BT	GEN08BT	How many years can children attend [ECED or PPE] programs altogether? Comments:
CQG-08C	GEN08C	Does your country provide targeted ECED or PPE coverage?
CQG-08CTA	GEN08CTA	Does your country provide targeted ECED or PPE coverage? Please describe:
CQG-08CTB	GEN08CTB	Does your country provide targeted ECED or PPE coverage? Comments:
CQG-09A	GEN09A	Does your country have national curriculum guidance documents for early childhood education?
CQG-09BaA	GEN09BAA	If Yes...Do the curriculum guidance documents cover any of the following topic areas? ECED programs: Socio-emotional development
CQG-09BaB	GEN09BAB	If Yes...Do the curriculum guidance documents cover any of the following topic areas? PPE programs: Socio-emotional development
CQG-09BbA	GEN09BBA	If Yes...Do the curriculum guidance documents cover any of the following topic areas? ECED programs: Physical development and health education
CQG-09BbB	GEN09BBB	If Yes...Do the curriculum guidance documents cover any of the following topic areas? PPE programs: Physical development and health education
CQG-09BcA	GEN09BCA	If Yes...Do the curriculum guidance documents cover any of the following topic areas? ECED programs: Oral language development and communication skills
CQG-09BcB	GEN09BCB	If Yes...Do the curriculum guidance documents cover any of the following topic areas? PPE programs: Oral language development and communication skills
CQG-09BdA	GEN09BDA	If Yes...Do the curriculum guidance documents cover any of the following topic areas? ECED programs: Reading and literacy skills
CQG-09BdB	GEN09BDB	If Yes...Do the curriculum guidance documents cover any of the following topic areas? PPE programs: Reading and literacy skills
CQG-09BeA	GEN09BEA	If Yes...Do the curriculum guidance documents cover any of the following topic areas? ECED programs: Mathematics and numeracy skills
CQG-09BeB	GEN09BEB	If Yes...Do the curriculum guidance documents cover any of the following topic areas? PPE programs: Mathematics and numeracy skills
CQG-09BfA	GEN09BFA	If Yes...Do the curriculum guidance documents cover any of the following topic areas? ECED programs: Science including understanding the natural world (e.g., weather)
CQG-09BfB	GEN09BFB	If Yes...Do the curriculum guidance documents cover any of the following topic areas? PPE programs: Science including understanding the natural world (e.g., weather)
CQG-09BgA	GEN09BGA	If Yes...Do the curriculum guidance documents cover any of the following topic areas? ECED programs: Other
CQG-09BgB	GEN09BGB	If Yes...Do the curriculum guidance documents cover any of the following topic areas? PPE programs: Other
CQG-09BgT	GEN09BGT	If Yes...Do the curriculum guidance documents cover any of the following topic areas? ECED and PPE programs: Other, please specify below

Exhibit S1.5: Index of International Variables for the TIMSS 2015 Curriculum Questionnaire - Fourth Grade
(Continued)

TIMSS 2015 Question Number	TIMSS 2015 Variable Name	TIMSS 2015 Variable Description (See questionnaire for full item text)
CQG-09BT	GEN09BT	If Yes...Do the curriculum guidance documents cover any of the following topic areas? ECED and PPE programs: Comments:
CQG-10A	GEN10A	Does an educational authority in your country (e.g., National Ministry of Education) administer examinations that have consequences for individual students, such as entry to a higher school system, entry to a university, and/or exiting or graduating from secondary school?
CQG-10B	GEN10B	If Yes...Please describe the grades at which the exams are given, the subjects that are assessed, and the purpose of each exam.
CQG-11A	GEN11A	Does your country have a policy on using student achievement to assign students to classes (e.g., streaming, tracking, setting)?
CQG-11B	GEN11B	If Yes...Please describe. Include whether this policy is used to assign students to mathematics and science classes and at what grade level assignment takes place.
CQG-12A	GEN12A	What is the main preparation route(s) for teachers of students in the fourth grade?
CQG-12Ba	GEN12BA	According to the main teacher preparation route, what are the current requirements for being a teacher of students in the fourth grade? Supervised practicum during the teacher education program.
CQG-12BaT	GEN12BAT	If Yes...How long is this period?
CQG-12Bb	GEN12BB	According to the main teacher preparation route, what are the current requirements for being a teacher of students in the fourth grade? Passing a qualifying examination (e.g., licensing, certification).
CQG-12Bc	GEN12BC	According to the main teacher preparation route, what are the current requirements for being a teacher of students in the fourth grade? Completion of a probationary teaching period.
CQG-12BcT	GEN12BCT	If Yes...How long is this period?
CQG-12Bd	GEN12BD	According to the main teacher preparation route, what are the current requirements for being a teacher of students in the fourth grade? Completion of a mentoring or induction program.
CQG-12C	GEN12C	Has the stated official policy for [the preparation of] fourth grade teachers changed In the last 10 years?
CQG-12D	GEN12D	If Yes...How did the policy change, and when was the change made?
CQG-13A	GEN13A	Is the main preparation route(s) for teachers of students in the eighth grade different from the main preparation route(s) at the fourth grade?
CQG-13B	GEN13B	If Yes...If the main preparation route(s) for teachers of students in the eighth grade is different, what is their main preparation route?
CQG-13Ca	GEN13CA	If the requirements are different than the fourth grade, what are the current requirements for being a teacher of students in the eighth grade? Supervised practicum during the teacher education program.
CQG-13CaT	GEN13CAT	If Yes...How long is this period?
CQG-13Cb	GEN13CB	If the requirements are different than the fourth grade, what are the current requirements for being a teacher of students in the eighth grade? Passing a qualifying examination (e.g., licensing, certification).
CQG-13c	GEN13CC	If the requirements are different than the fourth grade, what are the current requirements for being a teacher of students in the eighth grade? Completion of a probationary teaching period.
CQG-13CcT	GEN13CCT	If Yes...How long is this period?
CQG-13Cd	GEN13CD	If the requirements are different than the fourth grade, what are the current requirements for being a teacher of students in the eighth grade? Completion of a mentoring or induction program
CQG-13Ce	GEN13CE	If the requirements are different than the fourth grade, what are the current requirements for being a teacher of students in the eighth grade? Other
CQG-13CeT	GEN13CET	If the requirements are different than the fourth grade, what are the current requirements for being a teacher of students in the eighth grade? Other, please specify below:
CQG-13D	GEN13D	Has the stated official policy changed for [the preparation of] eighth grade teachers in the last 10 years?
CQG-13E	GEN13E	If Yes...How did the policy change, and when was the change made?
CQG-14A	GEN14A	What is the main preparation route(s) for principals of schools with fourth grade students?
CQG-14Ba	GEN14BA	According to the main principal preparation route, what are the current requirements for being a principal of a school with fourth grade students? Teaching experience
CQG-14Bb	GEN14BB	According to the main principal preparation route, what are the current requirements for being a principal of a school with fourth grade students? Completion of a specialized school leadership training program
CQG-14Bc	GEN14BC	According to the main principal preparation route, what are the current requirements for being a principal of a school with fourth grade students? Other

Exhibit S1.5: Index of International Variables for the TIMSS 2015 Curriculum Questionnaire - Fourth Grade
(Continued)

TIMSS 2015 Question Number	TIMSS 2015 Variable Name	TIMSS 2015 Variable Description (See questionnaire for full item text)
CQG-14BcT	GEN14BCT	According to the main principal preparation route, what are the current requirements for being a principal of a school with fourth grade students? Other, please specify below
CQG-14C	GEN14C	Has the stated official policy changed in the last 10 years for [the preparation of] principals of schools with fourth grade students?
CQG-14D	GEN14D	If Yes...How did the policy change, and when was the change made?
CQG-15A	GEN15A	Is the main preparation route(s) for principals of schools with eighth grade students different from the main preparation route(s) for principals of schools with fourth grade students?
CQG-15B	GEN15B	If the main preparation route(s) for principals of schools with eighth grade students is different, what is their main preparation route?
CQG-15Ca	GEN15CA	According to the main principal preparation route, what are the current requirements for being a principal of a school with eighth grade students? Teaching experience
CQG-15Cc	GEN15CB	According to the main principal preparation route, what are the current requirements for being a principal of a school with eighth grade students? Completion of a specialized school leadership training program
CQG-15Cc	GEN15CC	According to the main principal preparation route, what are the current requirements for being a principal of a school with eighth grade students? Other
CQG-15CcT	GEN15CCT	According to the main principal preparation route, what are the current requirements for being a principal of a school with eighth grade students? Other, please specify below:
CQG-15D	GEN15D	Has the stated official policy changed in the last 10 years for [the preparation of] principals of schools with eighth grade students?
CQG-15E	GEN15E	If Yes...How did the policy change, and when was the change made?
CQM4-01	MA401	Does your country have a national curriculum that covers mathematics instruction at the fourth grade of primary/elementary school?
CQM4-01TA	MA401TA	If Yes...Comments:
CQM4-01TB	MA401TB	If No...What is the highest level of decision-making authority (e.g., state or province) that provides a curriculum that covers mathematics instruction at the fourth grade of primary/elementary school?
CQM4-02A	MA402A	In what year was the 2014/2015 mathematics curriculum introduced?
CQM4-02AT	MA402AT	In what year was the 2014/2015 mathematics curriculum introduced? Comments:
CQM4-02B	MA402B	Is the mathematics curriculum currently being revised?
CQM4-02BTA	MA402BTA	If Yes...Please explain:
CQM4-02BTB	MA402BTB	If No...Comments:
CQM4-03TA	MA403TA	For the primary/elementary school mathematics curriculum, what is the grade structure?
CQM4-03TB	MA403TB	For the primary/elementary school mathematics curriculum, what is the grade structure? Comments:
CQM4-04a	MA404A	What does the mathematics curriculum prescribe? Goals and objectives
CQM4-04b	MA404B	What does the mathematics curriculum prescribe? Instructional processes or methods
CQM4-04c	MA404C	What does the mathematics curriculum prescribe? Materials (e.g., textbooks, instructional materials)
CQM4-04d	MA404D	What does the mathematics curriculum prescribe? Assessment methods/activities
CQM4-04e	MA404E	What does the mathematics curriculum prescribe? Other
CQM4-04eT	MA404ET	What does the mathematics curriculum prescribe? Other, please specify below:
CQM4-04T	MA404T	What does the mathematics curriculum prescribe? Comments:
CQM4-05	MA405	Does the curriculum or any other official document prescribe the percentage of total instructional time to be devoted to mathematics instruction at the fourth grade of primary/elementary school?
CQM4-05TA	MA405TA	If Yes...Please specify the percentage:
CQM4-05TB	MA405TB	Does the curriculum or any other official document prescribe the percentage of total instructional time to be devoted to mathematics instruction at the fourth grade of primary/elementary school? Comments:
CQM4-06a	MA406A	How is the mathematics curriculum implementation evaluated? Visits by inspectors
CQM4-06b	MA406B	How is the mathematics curriculum implementation evaluated? Research programs
CQM4-06c	MA406C	How is the mathematics curriculum implementation evaluated? School self-evaluation
CQM4-06d	MA406D	How is the mathematics curriculum implementation evaluated? National or regional examinations
CQM4-06e	MA406E	How is the mathematics curriculum implementation evaluated? Other
CQM4-06eT	MA406ET	How is the mathematics curriculum implementation evaluated? Other, please specify below:
CQM4-06T	MA406T	How is the mathematics curriculum implementation evaluated? Comments:
CQM4-07A	MA407A	Is there a process for approving the mathematics instructional materials?

Exhibit S1.5: Index of International Variables for the TIMSS 2015 Curriculum Questionnaire - Fourth Grade
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TIMSS 2015 Question Number	TIMSS 2015 Variable Name	TIMSS 2015 Variable Description (See questionnaire for full item text)
CQM4-07AT	MA407AT	If Yes...Please describe the process, and what materials (e.g., textbooks, workbooks, online materials) must be approved through this process
CQM4-07B	MA407B	Does the national curriculum contain statements/policies about the use of technology (e.g., computers, tablets, calculators) in grade 4 mathematics instruction?
CQM4-07BT	MA407BT	If Yes...What are the statements/policies?
CQM4-07C	MA407C	Does the national curriculum contain statements/policies about student use of technological aids (e.g., computers, tablets, calculators) in grade 4 mathematics tests or examinations?
CQM4-07CTA	MA407CTA	If Yes...What are the statements/policies?
CQM4-07CTB	MA407CTB	Does the national curriculum contain statements/policies about student use of technological aids (e.g., computers, tablets, calculators) in grade 4 mathematics tests or examinations? Comments:
CQM4-08Aa	MA408AA	According to the national mathematics curriculum, what proportion of grade 4 students should have been taught each of the following topics or skills by the end of grade 4? Number: Concepts of whole numbers, including place value and ordering
CQM4-08AaP to CQM4-08Aa12	MA408AAP to MA408AA12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Number: Concepts of whole numbers, including place value and ordering
CQM4-08Ab	MA408AB	According to the national mathematics curriculum, what proportion of grade 4 students should have been taught each of the following topics or skills by the end of grade 4? Number: Adding, subtracting, multiplying, and/or dividing with whole numbers
CQM4-08AbP to CQM4-08Ab12	MA408ABP to MA408AB12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Number: Adding, subtracting, multiplying, and/or dividing with whole numbers
CQM4-08Ac	MA408AC	According to the national mathematics curriculum, what proportion of grade 4 students should have been taught each of the following topics or skills by the end of grade 4? Number: Concepts of multiples and factors; odd and even numbers
CQM4-08AcP to CQM4-08Ac12	MA408ACP to MA408AC12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Number: Concepts of multiples and factors; odd and even numbers
CQM4-08Ad	MA408AD	According to the national mathematics curriculum, what proportion of grade 4 students should have been taught each of the following topics or skills by the end of grade 4? Number: Concepts of fractions (fractions as parts of a whole or of a collection, or as a location on a number line)
CQM4-08AdP to CQM4-08Ad12	MA408ADP to MA408AD12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Number: Concepts of fractions (fractions as parts of a whole or of a collection, or as a location on a number line)
CQM4-08Ae	MA408AE	According to the national mathematics curriculum, what proportion of grade 4 students should have been taught each of the following topics or skills by the end of grade 4? Number: Adding and subtracting with fractions, comparing and ordering fractions
CQM4-08AeP to CQM4-08Ae12	MA408AEP to MA408AE12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Number: Adding and subtracting with fractions, comparing and ordering fractions
CQM4-08Af	MA408AF	According to the national mathematics curriculum, what proportion of grade 4 students should have been taught each of the following topics or skills by the end of grade 4? Number: Concepts of decimals, including place value and ordering, adding and subtracting with decimals
CQM4-08AfP to CQM4-08Af12	MA408AFP to MA408AF12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Number: Concepts of decimals, including place value and ordering, adding and subtracting with decimals
CQM4-08Ag	MA408AG	According to the national mathematics curriculum, what proportion of grade 4 students should have been taught each of the following topics or skills by the end of grade 4? Number: Number sentences
CQM4-08AgP to CQM4-08Ag12	MA408AGP to MA408AG12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Number: Number sentences
CQM4-08Ah	MA408AH	According to the national mathematics curriculum, what proportion of grade 4 students should have been taught each of the following topics or skills by the end of grade 4? Number: Number patterns

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TIMSS 2015 Question Number	TIMSS 2015 Variable Name	TIMSS 2015 Variable Description (See questionnaire for full item text)
CQM4-08AhP to CQM4-08Ah12	MA408AHP to MA408AH12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Number: Number patterns
CQM4-08AT	MA408AT	According to the national mathematics curriculum, what proportion of grade 4 students should have been taught each of the following topics or skills by the end of grade 4? Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Number topics: Comments:
CQM4-08Ba	MA408BA	According to the national mathematics curriculum, what proportion of grade 4 students should have been taught each of the following topics or skills by the end of grade 4? Geometric Shapes and Measures: Lines: measuring, estimating length of; parallel and perpendicular lines
CQM4-08BaP to CQM4-08Ba12	MA408BAP to MA408BA12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Geometric Shapes and Measures: Lines: measuring, estimating length of; parallel and perpendicular lines
CQM4-08Bb	MA408BB	According to the national mathematics curriculum, what proportion of grade 4 students should have been taught each of the following topics or skills by the end of grade 4? Geometric Shapes and Measures: Comparing and drawing angles
CQM4-08BbP to CQM4-08Bb12	MA408BBP to MA408BB12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Geometric Shapes and Measures: Comparing and drawing angles
CQM4-08Bc	MA408BC	According to the national mathematics curriculum, what proportion of grade 4 students should have been taught each of the following topics or skills by the end of grade 4? Geometric Shapes and Measures: Using informal coordinate systems to locate points in a plane (e.g., in square B4)
CQM4-08BcP to CQM4-08Bc12	MA408BCP to MA408BC12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Geometric Shapes and Measures: Using informal coordinate systems to locate points in a plane (e.g., in square B4)
CQM4-08Bd	MA408BD	According to the national mathematics curriculum, what proportion of grade 4 students should have been taught each of the following topics or skills by the end of grade 4? Geometric Shapes and Measures: Elementary properties of common geometric shapes
CQM4-08BdP to CQM4-08Bd12	MA408BDP to MA408BD12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Geometric Shapes and Measures: Elementary properties of common geometric shapes
CQM4-08Be	MA408BE	According to the national mathematics curriculum, what proportion of grade 4 students should have been taught each of the following topics or skills by the end of grade 4? Geometric Shapes and Measures: Reflections and rotations
CQM4-08BeP to CQM4-08Be12	MA408BEP to MA408BE12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Geometric Shapes and Measures: Reflections and rotations
CQM4-08Bf	MA408BF	According to the national mathematics curriculum, what proportion of grade 4 students should have been taught each of the following topics or skills by the end of grade 4? Geometric Shapes and Measures: Relationships between two-dimensional and three-dimensional shapes
CQM4-08BfP to CQM4-08Bf12	MA408BFP to MA408BF12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Geometric Shapes and Measures: Relationships between two-dimensional and three-dimensional shapes
CQM4-08Bg	MA408BG	According to the national mathematics curriculum, what proportion of grade 4 students should have been taught each of the following topics or skills by the end of grade 4? Geometric Shapes and Measures: Finding and estimating areas, perimeters, and volumes
CQM4-08BgP to CQM4-08Bg12	MA408BGP to MA408BG12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Geometric Shapes and Measures: Finding and estimating areas, perimeters, and volumes
CQM4-08BT	MA408BT	According to the national mathematics curriculum, what proportion of grade 4 students should have been taught each of the following topics or skills by the end of grade 4? Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Geometric Shapes and Measures topics: Comments:

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TIMSS 2015 Question Number	TIMSS 2015 Variable Name	TIMSS 2015 Variable Description (See questionnaire for full item text)
QCM4-08Ca	MA408CA	According to the national mathematics curriculum, what proportion of grade 4 students should have been taught each of the following topics or skills by the end of grade 4? Data Display: Reading and representing data from tables, pictographs, bar graphs, or pie charts
QCM4-08CaP to QCM4-08Ca12	MA408CAP to MA408CA12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Data Display: Reading and representing data from tables, pictographs, bar graphs, or pie charts
QCM4-08Cb	MA408CB	According to the national mathematics curriculum, what proportion of grade 4 students should have been taught each of the following topics or skills by the end of grade 4? Data Display: Drawing conclusions from data displays
QCM4-08CbP to QCM4-08Cb12	MA408CBP to MA408CB12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Data Display: Drawing conclusions from data displays
QCM4-08CT	MA408CT	According to the national mathematics curriculum, what proportion of grade 4 students should have been taught each of the following topics or skills by the end of grade 4? Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Data Display topics: Comments:
QCS4-01	SC401	Does your country have a national curriculum that covers science instruction at the fourth grade of primary/elementary school?
QCS4-01TA	SC401TA	If Yes...Comments:
QCS4-01TB	SC401TB	If No...What is the highest level of decision-making authority (e.g., state or province) that provides a curriculum that covers science instruction at the fourth grade of primary/elementary school?
QCS4-02A	SC402A	In what year was the 2014/2015 science curriculum introduced?
QCS4-02AT	SC402AT	In what year was the 2014/2015 science curriculum introduced? Comments:
QCS4-02B	SC402B	Is the science curriculum currently being revised?
QCS4-02BTA	SC402BTA	If Yes...Please explain:
QCS4-02BTB	SC402BTB	If No...Comments:
QCS4-03TA	SC403TA	For the primary/elementary school science curriculum, what is the grade structure?
QCS4-03TB	SC403TB	For the primary/elementary school science curriculum, what is the grade structure? Comments:
QCS4-04a	SC404A	What does the science curriculum prescribe? Goals and objectives
QCS4-04b	SC404B	What does the science curriculum prescribe? Instructional processes or methods
QCS4-04c	SC404C	What does the science curriculum prescribe? Materials (e.g., textbooks, instructional materials)
QCS4-04d	SC404D	What does the science curriculum prescribe? Assessment methods/activities
QCS4-04e	SC404E	What does the science curriculum prescribe? Other
QCS4-04eT	SC404ET	What does the science curriculum prescribe? Other, please specify below:
QCS4-04T	SC404T	What does the science curriculum prescribe? Comments:
QCS4-05	SC405	Does the curriculum or any other official document prescribe the percentage of total instructional time to be devoted to science instruction at the fourth grade of primary/elementary school?
QCS4-05TA	SC405TA	If Yes...Please specify the percentage
QCS4-05TB	SC405TB	Does the curriculum or any other official document prescribe the percentage of total instructional time to be devoted to science instruction at the fourth grade of primary/elementary school? Comments:
QCS4-06a	SC406A	How is the science curriculum implementation evaluated? Visits by inspectors
QCS4-06b	SC406B	How is the science curriculum implementation evaluated? Research programs
QCS4-06c	SC406C	How is the science curriculum implementation evaluated? School self-evaluation
QCS4-06d	SC406D	How is the science curriculum implementation evaluated? National or regional examinations
QCS4-06e	SC406E	How is the science curriculum implementation evaluated? Other
QCS4-06eT	SC406ET	How is the science curriculum implementation evaluated? Other, please specify below:
QCS4-06T	SC406T	How is the science curriculum implementation evaluated? Comments:
QCS4-07A	SC407A	Is there a process for approving the science instructional materials?
QCS4-07AT	SC407AT	If Yes...Please describe the process, and what materials (e.g., textbooks, workbooks, online materials) must be approved through this process
QCS4-07B	SC407B	Does the national curriculum contain statements/policies about the use of technology (e.g., computers, tablets, calculators) in grade 4 science instruction?
QCS4-07BT	SC407BT	If Yes...What are the statements/policies?

Exhibit S1.5: Index of International Variables for the TIMSS 2015 Curriculum Questionnaire - Fourth Grade
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TIMSS 2015 Question Number	TIMSS 2015 Variable Name	TIMSS 2015 Variable Description (See questionnaire for full item text)
CQS4-08Aa	SC408AA	According to the national science curriculum, what proportion of grade 4 students should have been taught each of the following topics or skills by the end of grade 4? Life Science: Characteristics of living things and the major groups of living things
CQS4-08AaP to CQS4-08Aa12	SC408AAP to SC408AA12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Life Science: Characteristics of living things and the major groups of living things
CQS4-08Ab	SC408AB	According to the national science curriculum, what proportion of grade 4 students should have been taught each of the following topics or skills by the end of grade 4? Life Science: Major body structures and their functions in humans, other animals, and plants
CQS4-08AbP to CQS4-08Ab12	SC408ABP to SC408AB12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Life Science: Major body structures and their functions in humans, other animals, and plants
CQS4-08Ac	SC408AC	According to the national science curriculum, what proportion of grade 4 students should have been taught each of the following topics or skills by the end of grade 4? Life Science: Life cycles of common plants and animals
CQS4-08AcP to CQS4-08Ac12	SC408ACP to SC408AC12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Life Science: Life cycles of common plants and animals
CQS4-08Ad	SC408AD	According to the national science curriculum, what proportion of grade 4 students should have been taught each of the following topics or skills by the end of grade 4? Life Science: Understanding that some characteristics are inherited and some are the result of the environment
CQS4-08AdP to CQS4-08Ad12	SC408ADP to SC408AD12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Life Science: Understanding that some characteristics are inherited and some are the result of the environment
CQS4-08Ae	SC408AE	According to the national science curriculum, what proportion of grade 4 students should have been taught each of the following topics or skills by the end of grade 4? Life Science: How physical features and behaviors help living things survive in their environments
CQS4-08AeP to CQS4-08Ae12	SC408AEP to SC408AE12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Life Science: How physical features and behaviors help living things survive in their environments
CQS4-08Af	SC408AF	According to the national science curriculum, what proportion of grade 4 students should have been taught each of the following topics or skills by the end of grade 4? Life Science: Relationships in communities and ecosystems (e.g., simple food chains, predator-prey relationships, human impacts on the environment)
CQS4-08AfP to CQS4-08Af12	SC408AFP to SC408AF12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Life Science: Relationships in communities and ecosystems (e.g., simple food chains, predator-prey relationships, human impacts on the environment)
CQS4-08Ag	SC408AG	According to the national science curriculum, what proportion of grade 4 students should have been taught each of the following topics or skills by the end of grade 4? Life Science: Human health (transmission and prevention of diseases, symptoms of health and illness, importance of a healthy diet and exercise)
CQS4-08AgP to CQS4-08Ag12	SC408AGP to SC408AG12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Life Science: Human health (transmission and prevention of diseases, symptoms of health and illness, importance of a healthy diet and exercise)
CQS4-08AT	SC408AT	According to the national science curriculum, what proportion of grade 4 students should have been taught each of the following topics or skills by the end of grade 4? Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Life Science topics: Comments:
CQS4-08Ba	SC408BA	According to the national science curriculum, what proportion of grade 4 students should have been taught each of the following topics or skills by the end of grade 4? Physical Science: States of matter (solid, liquid, gas) and properties of the states of matter (volume, shape); how the state of matter changes by heating or cooling

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TIMSS 2015 Question Number	TIMSS 2015 Variable Name	TIMSS 2015 Variable Description (See questionnaire for full item text)
CQS4-08BaP to CQS4-08Ba12	SC408BAP to SC408BA12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Physical Science: States of matter (solid, liquid, gas) and properties of the states of matter (volume, shape); how the state of matter changes by heating or cooling
CQS4-08Bb	SC408BB	According to the national science curriculum, what proportion of grade 4 students should have been taught each of the following topics or skills by the end of grade 4? Physical Science: Classifying materials based on physical properties (e.g., weight/mass, volume, conducting heat, conducting electricity, magnetic attraction)
CQS4-08BbP to CQS4-08Bb12	SC408BBP to SC408BB12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Physical Science: Classifying materials based on physical properties (e.g., weight/mass, volume, conducting heat, conducting electricity, magnetic attraction)
CQS4-08Bc	SC408BC	According to the national science curriculum, what proportion of grade 4 students should have been taught each of the following topics or skills by the end of grade 4? Physical Science: Mixtures and how to separate a mixture into its components
CQS4-08BcP to CQS4-08Bc12	SC408BCP to SC408BC12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Physical Science: Mixtures and how to separate a mixture into its components
CQS4-08Bd	SC408BD	According to the national science curriculum, what proportion of grade 4 students should have been taught each of the following topics or skills by the end of grade 4? Physical Science: Chemical changes in everyday life
CQS4-08BdP to CQS4-08Bd12	SC408BDP to SC408BD12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Physical Science: Chemical changes in everyday life
CQS4-08Be	SC408BE	According to the national science curriculum, what proportion of grade 4 students should have been taught each of the following topics or skills by the end of grade 4? Physical Science: Common sources of energy and uses of energy
CQS4-08BeP to CQS4-08Be12	SC408BEP to SC408BE12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Physical Science: Common sources of energy and uses of energy
CQS4-08Bf	SC408BF	According to the national science curriculum, what proportion of grade 4 students should have been taught each of the following topics or skills by the end of grade 4? Physical Science: Light and sound in everyday life
CQS4-08BfP to CQS4-08Bf12	SC408BFP to SC408BF12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Physical Science: Light and sound in everyday life
CQS4-08Bg	SC408BG	According to the national science curriculum, what proportion of grade 4 students should have been taught each of the following topics or skills by the end of grade 4? Physical Science: Electricity and simple circuits
CQS4-08BgP to CQS4-08Bg12	SC408BGP to SC408BG12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Physical Science: Electricity and simple circuits
CQS4-08Bh	SC408BH	According to the national science curriculum, what proportion of grade 4 students should have been taught each of the following topics or skills by the end of grade 4? Physical Science: Properties of magnets
CQS4-08BhP to CQS4-08Bh12	SC408BHP to SC408BH12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Physical Science: Properties of magnets
CQS4-08Bi	SC408BI	According to the national science curriculum, what proportion of grade 4 students should have been taught each of the following topics or skills by the end of grade 4? Physical Science: Forces that cause objects to move (e.g., gravity, pushing/pulling)
CQS4-08BiP to CQS4-08Bi12	SC408BIP to SC408BI12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Physical Science: Forces that cause objects to move (e.g., gravity, pushing/pulling)

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TIMSS 2015 Question Number	TIMSS 2015 Variable Name	TIMSS 2015 Variable Description (See questionnaire for full item text)
QQS4-08BT	SC408BT	According to the national science curriculum, what proportion of grade 4 students should have been taught each of the following topics or skills by the end of grade 4? Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Physical Science topics: Comments:
QQS4-08Ca	SC408CA	According to the national science curriculum, what proportion of grade 4 students should have been taught each of the following topics or skills by the end of grade 4? Earth Science: Common features of the Earth's landscape and their relationship to human use
QQS4-08CaP to QQS4-08Ca12	SC408CAP to SC408CA12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Earth Science: Common features of the Earth's landscape and their relationship to human use
QQS4-08Cb	SC408CB	According to the national science curriculum, what proportion of grade 4 students should have been taught each of the following topics or skills by the end of grade 4? Earth Science: Where water is found on the Earth and how it moves in and out of the air
QQS4-08CbP to QQS4-08Cb12	SC408CBP to SC408CB12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Earth Science: Where water is found on the Earth and how it moves in and out of the air
QQS4-08Cc	SC408CC	According to the national science curriculum, what proportion of grade 4 students should have been taught each of the following topics or skills by the end of grade 4? Earth Science: Understanding that weather can change from day to day, from season to season, and by geographic location
QQS4-08CcP to QQS4-08Cc12	SC408CCP to SC408CC12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Earth Science: Understanding that weather can change from day to day, from season to season, and by geographic location
QQS4-08Cd	SC408CD	According to the national science curriculum, what proportion of grade 4 students should have been taught each of the following topics or skills by the end of grade 4? Earth Science: Understanding what fossils are and what they can tell us about past conditions on Earth
QQS4-08CdP to QQS4-08Cd12	SC408CDP to SC408CD12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Earth Science: Understanding what fossils are and what they can tell us about past conditions on Earth
QQS4-08Ce	SC408CE	According to the national science curriculum, what proportion of grade 4 students should have been taught each of the following topics or skills by the end of grade 4? Earth Science: Objects in the solar system and their movements
QQS4-08CeP to QQS4-08Ce12	SC408CEP to SC408CE12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Earth Science: Objects in the solar system and their movements
QQS4-08Cf	SC408CF	According to the national science curriculum, what proportion of grade 4 students should have been taught each of the following topics or skills by the end of grade 4? Earth Science: Understanding how day and night result from the Earth's rotation on its axis and how the Earth's rotation results in changing shadows throughout the day
QQS4-08CfP to QQS4-08Cf12	SC408CFP to SC408CF12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Earth Science: Understanding how day and night result from the Earth's rotation on its axis and how the Earth's rotation results in changing shadows throughout the day
QQS4-08Cg	SC408CG	According to the national science curriculum, what proportion of grade 4 students should have been taught each of the following topics or skills by the end of grade 4? Earth Science: Understanding how seasons are related to the Earth's annual movement around the Sun
QQS4-08CgP to QQS4-08Cg12	SC408CGP to SC408CG12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Earth Science: Understanding how seasons are related to the Earth's annual movement around the Sun
QQS4-08CT	SC408CT	According to the national science curriculum, what proportion of grade 4 students should have been taught each of the following topics or skills by the end of grade 4? Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Earth Science topics: Comments:



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TIMSS
2015

TIMSS 2015 Curriculum Questionnaire— Fourth Grade

Grade



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International Study Center
Lynch School of Education, Boston College



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TIMSS2015MS_OCQ - English
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Welcome to the IEA - DPC SurveySystem

**TIMSS 2015
Curriculum Questionnaire**

Please enter your user ID and password (Checksum).

User ID:

Password:

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TIMSS 2015 Curriculum Questionnaire – Fourth Grade

TIMSS 2015 Curriculum Questionnaire – Fourth Grade

The TIMSS 2015 Curriculum Questionnaire is designed to collect basic information about the structure of the education system as well as the organization, content, and implementation of the mathematics and/or science curricula in each country.

The questionnaire should be completed by the National Research Coordinators, drawing on the expertise of curriculum specialists and educators. Please submit this questionnaire no later than **August 31, 2015**.

To begin the questionnaire, please click on the "Next" button. When navigating through the questionnaire, make sure to confirm your responses by clicking on the "Next" or "Previous" button. To go to a particular section or item, please click on the corresponding link in the "Table of Contents."

Please note that the General Module is the same across the fourth and eighth grades, and therefore National Research Coordinators of countries participating in TIMSS 2015 at both the fourth and eighth grade are advised to complete the General Module at only one of the grade levels. The Mathematics and Science Modules should be completed at both grade levels.

If you have any questions about the content of this questionnaire, please contact the TIMSS & PIRLS International Study Center at Boston College: timss@bc.edu

If you have any technical questions on how to complete this questionnaire, please contact the IEA Data Processing & Research Center (DPC): timss@iea-dpc.de

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TIMSS 2015 Curriculum Questionnaire – Fourth Grade - GENERAL MODULE

GENERAL MODULE

To be completed by all countries participating in TIMSS

Please note: if you already have completed the General Module of the Grade 8 Curriculum Questionnaire, please skip the General Module using the Table of Contents.

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GEN01

TIMSS - 2015 - English
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TIMSS 2015 Curriculum Questionnaire – Fourth Grade - Grade Structure and Student Flow

Grade Structure and Student Flow

G1. What is your country's name for the grade(s) tested in TIMSS 2015, in English (e.g., grade 4, grade 8)?

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TIMSS - 2015 - English
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TIMSS 2015 Curriculum Questionnaire – Fourth Grade - Grade Structure and Student Flow

GEN02A

G2. A. In your country, what is the stated official policy or regulation on students' age of entry to primary school (ISCED Level 1)?

Examples: "Children begin school during the calendar year of their 6th birthday"; "Children must be 6 years old by the end of June to begin school the following September."

GEN02B

B. If the official policy allows some parental discretion or choice, please describe the usual practice.

Example: "Even though the official policy is that students can begin school in the year when they turn 6 years old, children typically begin primary school at age 7 because their parents feel they will benefit from being more mature."

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TIMSS 2015 Curriculum Questionnaire – Fourth Grade - Grade Structure and Student Flow

GEN03A

G3. A. Has the stated official policy changed in the last 10 years?

Check *one* circle only.

- Yes
- No

GEN03B

If Yes....

B. How did the policy change, and when was the change made?

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GEN04

TIMSS - 2015 - English
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TIMSS 2015 Curriculum Questionnaire – Fourth Grade - Grade Structure and Student Flow

G4. What are the ages and/or grades of compulsory education in your country?

Example: "Ages 6-16; Grades 1-9."

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GEN05

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TIMSS 2015 Curriculum Questionnaire – Fourth Grade - Grade Structure and Student Flow

G5. Beginning with ISCED Level 1, what grades of schooling are provided to students through ISCED Level 3 (upper secondary)?

Example: "Grades 1-12."

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GEN06

GEN06T

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TIMSS 2015 Curriculum Questionnaire – Fourth Grade - Grade Structure and Student Flow

G6. Does your country have a policy on the promotion and retention of students across grades 1-8?

Example: "Automatic promotion for grades 1-5, dependent on academic progress for grades 6-8."

Check **one** circle only.

Yes

No

Please describe:

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TIMSS 2015 Curriculum Questionnaire – Fourth Grade - Grade Structure and Student Flow

GEN07

G7. Does your country have a nationally mandated number of school days per year?

Check one circle only.

- Yes
- No

Please describe:

GEN07T

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TIMSS 2015 Curriculum Questionnaire – Fourth Grade - Early Childhood Education

Early Childhood Education

Early childhood education (ISCED Level 0) is subdivided into:
 • **Early childhood educational development (ECED)** programs for children under 3; and
 • **Pre-primary education (PPE)** programs including Kindergarten for children age 3 or older.

G8. A. Does your country provide universal ECED or PPE coverage?

Programs with **universal** coverage are accessible and available to all children, although in some cases parents may choose not to enroll their children.

Check **one** circle for each line.

- | | Yes | No |
|---|-----------------------|-----------------------|
| a) ECED programs for children under 3 | <input type="radio"/> | <input type="radio"/> |
| b) PPE programs for children age 3 or older | <input type="radio"/> | <input type="radio"/> |

B. How many years can children attend these programs altogether?

Check **one** circle only.

- 1 year
- 2 years
- 3 years
- 4 or more years

Comments:

C. Does your country provide targeted ECED or PPE coverage?

Programs with **targeted** coverage are only available for certain subgroups (e.g., for children from low-income families, for children where the language spoken at home is different from the national language).

Check **one** circle only.

- Yes
- No

Please describe:

Comments:

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GEN08AA
GEN08AB
GEN08B

GEN08BT

GEN08C

GEN08CTA

GEN08CTB

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TIMSS 2015 Curriculum Questionnaire – Fourth Grade - Early Childhood Education

Early childhood education (ISCED Level 0) is subdivided into:
 • Early childhood educational development (ECED) programs for children under 3; and
 • Pre-primary education (PPE) programs including Kindergarten for children age 3 or older.

G9. A. Does your country have national curriculum guidance documents for early childhood education?

Check **one** circle only.

- Yes
- No

If Yes....

B. Do the curriculum guidance documents cover any of the following topic areas?

Check **one** circle for ECED programs, AND **one** circle for PPE programs.

	ECED programs		PPE programs	
	Yes	No	Yes	No
a) Socio-emotional development	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) Physical development and health education	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) Oral language development and communication skills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) Reading and literacy skills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) Mathematics and numeracy skills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f) Science including understanding the natural world (e.g., weather)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g) Other Please specify below:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments:

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GEN09A

GEN09BAA
GEN09BBA
GEN09BCA
GEN09BDA
GEN09BEA
GEN09BFA
GEN09BGA

GEN09BGT

GEN09BT

GEN09BAB
GEN09BBB
GEN09BCB
GEN09BDB
GEN09BEB
GEN09BFB
GEN09BGB

GEN10A

GEN10B

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TIMSS 2015 Curriculum Questionnaire – Fourth Grade - Examinations

Examinations

G10. A. Does an educational authority in your country (e.g., National Ministry of Education) administer examinations that have consequences for individual students, such as entry to a higher school system, entry to a university, and/or exiting or graduating from secondary school?

Check one circle only.

Yes
 No

If Yes....
B. Please describe the grades at which the exams are given, the subjects that are assessed, and the purpose of each exam.

Example: "There is an exam including language and mathematics given at the end of grade 8 to determine placement for entry to secondary school."

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GEN11A

GEN11B

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TIMSS 2015 Curriculum Questionnaire – Fourth Grade - Examinations

G11. A. Does your country have a policy on using student achievement to assign students to classes (e.g., streaming, tracking, setting)?

Check one circle only.

Yes
 No

If Yes....
B. Please describe. Include whether this policy is used to assign students to mathematics and science classes and at what grade level assignment takes place.

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TIMSS 2015 Curriculum Questionnaire – Fourth Grade - Teacher Preparation

Teacher Preparation

G12. A. What is the main preparation route(s) for teachers of students in the fourth grade?

Example: "Most teachers receive their education through a university degree program. Some have attended a teacher college program, but that is becoming less common."

B. According to the main teacher preparation route, what are the current requirements for being a teacher of students in the fourth grade?

Check one circle for each line.

- | | Yes | No |
|---|-----------------------|-----------------------|
| a) Supervised practicum during the teacher education program. | <input type="radio"/> | <input type="radio"/> |
| <i>If Yes...</i> | | |
| How long is this period? | | |
| b) Passing a qualifying examination (e.g., licensing, certification). | <input type="radio"/> | <input type="radio"/> |
| c) Completion of a probationary teaching period. | <input type="radio"/> | <input type="radio"/> |
| <i>If Yes...</i> | | |
| How long is this period? | | |
| d) Completion of a mentoring or induction program (e.g., experienced teachers work with novice teachers to provide instructional guidance). | <input type="radio"/> | <input type="radio"/> |
| e) Other | <input type="radio"/> | <input type="radio"/> |
| Please specify below: | | |

C. Has the stated official policy for fourth grade teachers changed in the last 10 years?

Check one circle only.

- Yes
 No

If Yes....

D. How did the policy change, and when was the change made?

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GEN12A

GEN12BA
GEN12BAT
GEN12BB
GEN12BC
GEN12BCT
GEN12BD

GEN12BE

GEN12BET

GEN12C

GEN12D

TIMSS - 2015 - English
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TIMSS 2015 Curriculum Questionnaire – Fourth Grade - Teacher Preparation

GEN13A

G13. A. Is the main preparation route(s) for teachers of students in the eighth grade different from the main preparation route(s) at the fourth grade?

Check **one** circle only.

- Yes
- No

GEN13B

If Yes....

B. If the main preparation route(s) for teachers of students in the eighth grade is different, what is their main preparation route?

C. If the requirements are different than the fourth grade, what are the current requirements for being a teacher of students in the eighth grade?

Check **one** circle for each line.

GEN13CA
GEN13CAT

	Yes	No
a) Supervised practicum during the teacher education program.	<input type="radio"/>	<input type="radio"/>

If Yes...

How long is this period?

GEN13CB
GEN13CC
GEN13CCT

b) Passing a qualifying examination (e.g., licensing, certification).	<input type="radio"/>	<input type="radio"/>
c) Completion of a probationary teaching period.	<input type="radio"/>	<input type="radio"/>

If Yes...

How long is this period?

GEN13CD

d) Completion of a mentoring or induction program (e.g., experienced teachers work with novice teachers to provide instructional guidance).	<input type="radio"/>	<input type="radio"/>
---	-----------------------	-----------------------

GEN13CE

e) Other Please specify below:	<input type="radio"/>	<input type="radio"/>
-----------------------------------	-----------------------	-----------------------

GEN13CET

GEN13D

D. Has the stated official policy changed for eighth grade teachers in the last 10 years?

Check **one** circle only.

- Yes
- No

GEN13E

If Yes....

E. How did the policy change, and when was the change made?

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TIMSS 2015 Curriculum Questionnaire – Fourth Grade - Principal Preparation

Principal Preparation

G14. A. What is the main preparation route(s) for principals of schools with fourth grade students?

Example: "In addition to receiving their teaching qualifications, most principals have a degree in educational leadership."

B. According to the main principal preparation route, what are the current requirements for being a principal of a school with fourth grade students?

Check one circle for each line.

	Yes	No
a) Teaching experience	<input type="radio"/>	<input type="radio"/>
b) Completion of a specialized school leadership training program (including a school leadership degree program)	<input type="radio"/>	<input type="radio"/>
c) Other Please specify below:	<input type="radio"/>	<input type="radio"/>

C. Has the stated official policy changed in the last 10 years for principals of schools with fourth grade students?

Check one circle only.

- Yes
 No

If Yes....

D. How did the policy change, and when was the change made?

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GEN14A

GEN14BA

GEN14BB

GEN14BC

GEN14BCT

GEN14C

GEN14D

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TIMSS 2015 Curriculum Questionnaire – Fourth Grade - Principal Preparation

GEN15A

G15. A. Is the main preparation route(s) for principals of schools with eighth grade students different from the main preparation route(s) for principals of schools with fourth grade students?

Check **one** circle only.

- Yes
- No

GEN15B

If Yes....

B. If the main preparation route(s) for principals of schools with eighth grade students is different, what is their main preparation route?

Example: "In addition to receiving their teaching qualifications, most principals have a degree in educational leadership."

C. According to the main principal preparation route, what are the current requirements for being a principal of a school with eighth grade students?

Check **one** circle for each line.

GEN15CA

GEN15CB

GEN15CC

	Yes	No
a) Teaching experience	<input type="radio"/>	<input type="radio"/>
b) Completion of a specialized school leadership training program (including a school leadership degree program)	<input type="radio"/>	<input type="radio"/>
c) Other Please specify below:	<input type="radio"/>	<input type="radio"/>

GEN15CCT

GEN15D

D. Has the stated official policy changed in the last 10 years for principals of schools with eighth grade students?

Check **one** circle only.

- Yes
- No

GEN15E

If Yes....

E. How did the policy change, and when was the change made?

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TIMSS 2015 Curriculum Questionnaire – Fourth Grade - MATHEMATICS MODULE - GRADE 4

MATHEMATICS MODULE - GRADE 4

To be completed by all countries participating in TIMSS at the fourth grade

This mathematics module refers to the national curriculum that was in effect for the fourth grade students assessed in TIMSS 2015—the curriculum that covers mathematics instruction at the fourth grade of primary/elementary school for the majority of students. If you do not have a national curriculum, please summarize for your state or provincial curricula.

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TIMSS 2015 Curriculum Questionnaire – Fourth Grade - About the Fourth Grade Mathematics Curriculum

About the Fourth Grade Mathematics Curriculum

This mathematics module refers to the national curriculum that was in effect for the fourth grade students assessed in TIMSS 2015—the curriculum that covers mathematics instruction at the fourth grade of primary/elementary school for the majority of students. If you do not have a national curriculum, please summarize for your state or provincial curricula.

M1. Does your country have a national curriculum that covers mathematics instruction at the fourth grade of primary/elementary school?

Check **one** circle only.

- Yes
- No

If Yes...

Comments:

If No...

What is the highest level of decision-making authority (e.g., state or province) that provides a curriculum that covers mathematics instruction at the fourth grade of primary/elementary school?

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MA401

MA401TA

MA401TB

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TIMSS 2015 Curriculum Questionnaire – Fourth Grade - About the Fourth Grade Mathematics Curriculum

MA402A

M2. A. In what year was the 2014/2015 mathematics curriculum introduced?

Comments:

MA402AT

MA402B

B. Is the mathematics curriculum currently being revised?

Check one circle only.

- Yes
- No

MA402BTA

If Yes...

Please explain:

MA402BTB

If No...

Comments:

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MA403TA

MA403TB

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TIMSS 2015 Curriculum Questionnaire – Fourth Grade - About the Fourth Grade Mathematics Curriculum

M3. For the primary/elementary school mathematics curriculum, what is the grade structure?
Examples: "Grades 1-8"; "Grades 1-4"; "Grades 2-5"

Comments:

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TIMSS 2015 Curriculum Questionnaire – Fourth Grade - Curriculum Specifications

Curriculum Specifications

This mathematics module refers to the national curriculum that was in effect for the fourth grade students assessed in TIMSS 2015—the curriculum that covers mathematics instruction at the fourth grade of primary/elementary school for the majority of students. If you do not have a national curriculum, please summarize for your state or provincial curricula.

M4. What does the mathematics curriculum prescribe?

Check **one** circle for each line.

	Yes	No
a) Goals and objectives	<input type="radio"/>	<input type="radio"/>
b) Instructional processes or methods	<input type="radio"/>	<input type="radio"/>
c) Materials (e.g., textbooks, instructional materials)	<input type="radio"/>	<input type="radio"/>
d) Assessment methods/activities	<input type="radio"/>	<input type="radio"/>
e) Other Please specify below:	<input type="radio"/>	<input type="radio"/>

Comments:

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MA404A
MA404B
MA404C
MA404D
MA404E

MA404ET

MA404T

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TIMSS 2015 Curriculum Questionnaire – Fourth Grade - Curriculum Specifications

MA405

M5. Does the curriculum or any other official document prescribe the percentage of total instructional time to be devoted to mathematics instruction at the fourth grade of primary/elementary school?

Check one circle only.

- Yes
- No

MA405TA

If Yes...

Please specify the percentage:

Comments:

MA405TB

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TIMSS 2015 Curriculum Questionnaire – Fourth Grade - Curriculum Specifications

M6. How is the mathematics curriculum implementation evaluated?

Check one circle for each line.

	Yes	No
a) Visits by inspectors	<input type="radio"/>	<input type="radio"/>
b) Research programs	<input type="radio"/>	<input type="radio"/>
c) School self-evaluation	<input type="radio"/>	<input type="radio"/>
d) National or regional examinations	<input type="radio"/>	<input type="radio"/>
e) Other Please specify below:	<input type="radio"/>	<input type="radio"/>

Comments:

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MA406A
MA406B
MA406C
MA406D
MA406E

MA406ET

MA406T

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TIMSS 2015 Curriculum Questionnaire – Fourth Grade - Instructional Materials and Use of Technology

Instructional Materials and Use of Technology

This mathematics module refers to the national curriculum that was in effect for the fourth grade students assessed in TIMSS 2015—the curriculum that covers mathematics instruction at the fourth grade of primary/elementary school for the majority of students. If you do not have a national curriculum, please summarize for your state or provincial curricula.

MA407A

M7. A. Is there a process for approving the mathematics instructional materials?

Check **one** circle only.

- Yes
- No

MA407AT

If Yes...

Please describe the process, and what materials (e.g., textbooks, workbooks, online materials) must be approved through this process:

MA407B

B. Does the national curriculum contain statements/policies about the use of technology (e.g., computers, tablets, calculators) in grade 4 mathematics instruction?

Check **one** circle only.

- Yes
- No

MA407BT

If Yes...

What are the statements/policies?

(Continued on Next Page)

MA407C

MA407CTA

MA407CTB

TIMSS - 2015 - English (Continued)
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TIMSS 2015 Curriculum Questionnaire – Fourth Grade - Instructional Materials and Use of Technology

C. Does the national curriculum contain statements/policies about student use of technological aids (e.g., computers, tablets, calculators) in grade 4 mathematics tests or examinations?

Check **one** circle only.

Yes
 No

If Yes...
What are the statements/policies?

Comments:

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TIMSS 2015 Curriculum Questionnaire – Fourth Grade - Fourth Grade Mathematics Topics Covered

Fourth Grade Mathematics Topics Covered

This mathematics module refers to the national curriculum that was in effect for the fourth grade students assessed in TIMSS 2015—the curriculum that covers mathematics instruction at the fourth grade of primary/elementary school for the majority of students. If you do not have a national curriculum, please summarize for your state or provincial curricula.

M8. (i) According to the national mathematics curriculum, what proportion of grade 4 students should have been taught each of the following topics or skills by the end of grade 4?

Be sure to include curriculum expectations for all grades up to and including grade 4. Grades represent years of formal schooling. For example, if "Year 5" in your country corresponds to the fourth year of formal schooling, please choose grade 4.

(ii) Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught?

If there are not any specifications to this detail, please indicate national expectations to the best of your ability. If part of a topic does not apply [e.g., odd and even numbers in part A topic (c)], please explain in the comment field.

	(i) Proportion of grade 4 students expected to be taught topic			(ii) Grade(s) topic is expected to be taught preprimary (PP) through the end of upper secondary (G12)												
	All or almost all students	Only the more able students	Not included in the curriculum through grade 4	PP	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G11	G12
A. Number	Check one circle for each line.			Check the corresponding grade(s) for each topic.												
a) Concepts of whole numbers, including place value and ordering	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Adding, subtracting, multiplying, and/or dividing with whole numbers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Concepts of multiples and factors; odd and even numbers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Concepts of fractions (fractions as parts of a whole or of a collection, or as a location on a number line)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Adding and subtracting with fractions, comparing and ordering fractions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Concepts of decimals, including place value and ordering, adding and subtracting with decimals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) Number sentences (finding the missing number, modeling simple situations with number sentences)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h) Number patterns (extending number patterns and finding missing terms)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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TIMSS 2015 Curriculum Questionnaire – Fourth Grade - Fourth Grade Mathematics Topics Covered

M8. (continued)

(i) According to the national mathematics curriculum, what proportion of grade 4 students should have been taught each of the following topics or skills by the end of grade 4?

Be sure to include curriculum expectations for all grades up to and including grade 4. Grades represent years of formal schooling. For example, if "Year 5" in your country corresponds to the fourth year of formal schooling, please choose grade 4.

(ii) Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught?

If there are not any specifications to this detail, please indicate national expectations to the best of your ability. If part of a topic does not apply [e.g., odd and even numbers in part A topic (c)], please explain in the comment field.

	(i) Proportion of grade 4 students expected to be taught topic			(ii) Grade(s) topic is expected to be taught preprimary (PP) through the end of upper secondary (G12)												
	Check one circle for each line.			Check the corresponding grade(s) for each topic.												
	All or almost all students	Only the more able students	Not included in the curriculum through grade 4	PP	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G11	G12
B. Geometric Shapes and Measures																
a) Lines: measuring, estimating length of; parallel and perpendicular lines	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Comparing and drawing angles	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Using informal coordinate systems to locate points in a plane (e.g., in square B4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Elementary properties of common geometric shapes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Reflections and rotations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Relationships between two-dimensional and three-dimensional shapes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) Finding and estimating areas, perimeters, and volumes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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TIMSS 2015 Curriculum Questionnaire – Fourth Grade - Fourth Grade Mathematics Topics Covered

M8. (continued)

(i) According to the national mathematics curriculum, what proportion of grade 4 students should have been taught each of the following topics or skills by the end of grade 4?

Be sure to include curriculum expectations for all grades up to and including grade 4. Grades represent years of formal schooling. For example, if "Year 5" in your country corresponds to the fourth year of formal schooling, please choose grade 4.

(ii) Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught?

If there are not any specifications to this detail, please indicate national expectations to the best of your ability. If part of a topic does not apply [e.g., odd and even numbers in part A topic (c)], please explain in the comment field.

	(i) Proportion of grade 4 students expected to be taught topic			(ii) Grade(s) topic is expected to be taught preprimary (PP) through the end of upper secondary (G12)													
	All or almost all students	Only the more able students	Not included in the curriculum through grade 4	PP	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G11	G12	
C. Data Display	Check one circle for each line.			Check the corresponding grade(s) for each topic.													
a) Reading and representing data from tables, pictographs, bar graphs, or pie charts	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Drawing conclusions from data displays	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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MA408CA

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TIMSS 2015 Curriculum Questionnaire – Fourth Grade - SCIENCE MODULE - GRADE 4

SCIENCE MODULE - GRADE 4

To be completed by all countries participating in TIMSS at the fourth grade

This science module refers to the national curriculum that was in effect for the fourth grade students assessed in TIMSS 2015—the curriculum that covers science instruction at the fourth grade of primary/elementary school for the majority of students. If you do not have a national curriculum, please summarize for your state or provincial curricula.

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TIMSS 2015 Curriculum Questionnaire – Fourth Grade - About the Fourth Grade Science Curriculum

About the Fourth Grade Science Curriculum

This science module refers to the national curriculum that was in effect for the fourth grade students assessed in TIMSS 2015—the curriculum that covers science instruction at the fourth grade of primary/elementary school for the majority of students. If you do not have a national curriculum, please summarize for your state or provincial curricula.

S1. Does your country have a national curriculum that covers science instruction at the fourth grade of primary/elementary school?

Check **one** circle only.

- Yes
- No

If Yes...

Comments:

If No...

What is the highest level of decision-making authority (e.g., state or province) that provides a curriculum that covers science instruction at the fourth grade of primary/elementary school?

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SC401

SC401TA

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TIMSS 2015 Curriculum Questionnaire – Fourth Grade - About the Fourth Grade Science Curriculum

SC402A

S2. A. In what year was the 2014/2015 science curriculum introduced?

Comments:

SC402AT

SC402B

B. Is the science curriculum currently being revised?

Check one circle only.

- Yes
- No

SC402BTA

If Yes...

Please explain:

SC402BTB

If No...

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SC403TA

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TIMSS 2015 Curriculum Questionnaire – Fourth Grade - About the Fourth Grade Science Curriculum

S3. For the primary/elementary school science curriculum, what is the grade structure?
Examples: "Grades 1-8"; "Grades 1-4"; "Grades 2-5"

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TIMSS 2015 Curriculum Questionnaire – Fourth Grade - Curriculum Specifications

Curriculum Specifications

This science module refers to the national curriculum that was in effect for the fourth grade students assessed in TIMSS 2015—the curriculum that covers science instruction at the fourth grade of primary/elementary school for the majority of students. If you do not have a national curriculum, please summarize for your state or provincial curricula.

S4. What does the science curriculum prescribe?

Check **one** circle for each line.

	Yes	No
a) Goals and objectives	<input type="radio"/>	<input type="radio"/>
b) Instructional processes or methods	<input type="radio"/>	<input type="radio"/>
c) Materials (e.g., textbooks, instructional materials)	<input type="radio"/>	<input type="radio"/>
d) Assessment methods/activities	<input type="radio"/>	<input type="radio"/>
e) Other Please specify below:	<input type="radio"/>	<input type="radio"/>

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SC404E

SC404ET

SC404T



SC405

SC405TA

SC405TB

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TIMSS 2015 Curriculum Questionnaire – Fourth Grade - Curriculum Specifications

S5. Does the curriculum or any other official document prescribe the percentage of total instructional time to be devoted to science instruction at the fourth grade of primary/elementary school?

Check one circle only.

Yes
 No

If Yes...
Please specify the percentage:

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TIMSS 2015 Curriculum Questionnaire – Fourth Grade - Curriculum Specifications

S6. How is the science curriculum implementation evaluated?

Check one circle for each line.

	Yes	No
a) Visits by inspectors	<input type="radio"/>	<input type="radio"/>
b) Research programs	<input type="radio"/>	<input type="radio"/>
c) School self-evaluation	<input type="radio"/>	<input type="radio"/>
d) National or regional examinations	<input type="radio"/>	<input type="radio"/>
e) Other	<input type="radio"/>	<input type="radio"/>
Please specify below:		

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SC406A
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SC406ET

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TIMSS 2015 Curriculum Questionnaire – Fourth Grade - Instructional Materials and Use of Technology

Instructional Materials and Use of Technology

This science module refers to the national curriculum that was in effect for the fourth grade students assessed in TIMSS 2015—the curriculum that covers science instruction at the fourth grade of primary/elementary school for the majority of students. If you do not have a national curriculum, please summarize for your state or provincial curricula.

S7. A. Is there a process for approving the science instructional materials?

Check **one** circle only.

- Yes
- No

If Yes...

Please describe the process, and what materials (e.g., textbooks, workbooks, online materials) must be approved through this process:

B. Does the national curriculum contain statements/policies about the use of technology (e.g., computers, tablets, calculators) in grade 4 science instruction?

Check **one** circle only.

- Yes
- No

If Yes...

What are the statements/policies?

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SC407A

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TIMSS 2015 Curriculum Questionnaire – Fourth Grade - Fourth Grade Science Topics Covered

Fourth Grade Science Topics Covered

This science module refers to the national curriculum that was in effect for the fourth grade students assessed in TIMSS 2015—the curriculum that covers science instruction at the fourth grade of primary/elementary school for the majority of students. If you do not have a national curriculum, please summarize for your state or provincial curricula.

S8. (i) According to the national science curriculum, what proportion of grade 4 students should have been taught each of the following topics or skills by the end of grade 4?

Be sure to include curriculum expectations for all grades up to and including grade 4. Grades represent years of formal schooling. For example, if "Year 5" in your country corresponds to the fourth year of formal schooling, please choose grade 4.

(ii) Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught?

If there are not any specifications to this detail, please indicate national expectations to the best of your ability. If part of a topic does not apply [e.g., birds in part A topic (a)], please explain in the comment field.

SC408AA

SC408AB

SC408AC

SC408AD

SC408AE

SC408AF

SC408AG

SC408AT

	(i) Proportion of grade 4 students expected to be taught topic			(ii) Grade(s) topic is expected to be taught preprimary (PP) through the end of upper secondary (G12)												
	Check one circle for each line.			Check the corresponding grade(s) for each topic												
	All or almost all students	Only the more able students	Not included in the curriculum through grade 4	PP	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G11	G12
A. Life Science																
a) Characteristics of living things and the major groups of living things (e.g., mammals, birds, insects, flowering plants)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Major body structures and their functions in humans, other animals, and plants	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Life cycles of common plants and animals (e.g., humans, butterflies, frogs, flowering plants)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Understanding that some characteristics are inherited and some are the result of the environment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) How physical features and behaviors help living things survive in their environments	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Relationships in communities and ecosystems (e.g., simple food chains, predator-prey relationships, human impacts on the environment)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) Human health (transmission and prevention of diseases, symptoms of health and illness, importance of a healthy diet and exercise)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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TIMSS 2015 Curriculum Questionnaire – Fourth Grade - Fourth Grade Science Topics Covered

S8. (continued)

(i) According to the national science curriculum, what proportion of grade 4 students should have been taught each of the following topics or skills by the end of grade 4?

Be sure to include curriculum expectations for all grades up to and including grade 4. Grades represent years of formal schooling. For example, if "Year 5" in your country corresponds to the fourth year of formal schooling, please choose grade 4.

(ii) Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught?

If there are not any specifications to this detail, please indicate national expectations to the best of your ability. If part of a topic does not apply [e.g., birds in part A topic (a)], please explain in the comment field.

	(i) Proportion of grade 4 students expected to be taught topic			(ii) Grade(s) topic is expected to be taught preprimary (PP) through the end of upper secondary (G12)														
	Check one circle for each line.			Check the corresponding grade(s) for each topic														
	All or almost all students	Only the more able students	Not included in the curriculum through grade 4	PP	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G11		G12	
B. Physical Science																		
SC408BA	a) States of matter (solid, liquid, gas) and properties of the states of matter (volume, shape); how the state of matter changes by heating or cooling	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SC408BAP-12
SC408BB	b) Classifying materials based on physical properties (e.g., weight/mass, volume, conducting heat, conducting electricity, magnetic attraction)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SC408BBP-12
SC408BC	c) Mixtures and how to separate a mixture into its components (e.g., sifting, filtering, evaporation, using a magnet)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SC408BCP-12
SC408BD	d) Chemical changes in everyday life (e.g., decaying, burning, rusting, cooking)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SC408BDP-12
SC408BE	e) Common sources of energy (e.g., the Sun, electricity, wind) and uses of energy (heating and cooling homes, providing light)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SC408BEP-12
SC408BF	f) Light and sound in everyday life (e.g., understanding shadows and reflection, understanding that vibrating objects make sound)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SC408BFP-12
SC408BG	g) Electricity and simple circuits (e.g., identifying materials that are conductors, recognizing that electricity can be changed to light or sound, knowing that a circuit must be complete to work correctly)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SC408BGP-12
SC408BH	h) Properties of magnets (e.g., knowing that like poles repel and opposite poles attract, recognizing that magnets can attract some objects)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SC408BHP-12
SC408BI	i) Forces that cause objects to move (e.g., gravity, pushing/pulling)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SC408BIP-12

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SC408BT

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TIMSS 2015 Curriculum Questionnaire – Fourth Grade - Fourth Grade Science Topics Covered

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TIMSS 2015 Curriculum Questionnaire – Fourth Grade - Fourth Grade Science Topics Covered

S8. (continued)

(i) According to the national science curriculum, what proportion of grade 4 students should have been taught each of the following topics or skills by the end of grade 4?

Be sure to include curriculum expectations for all grades up to and including grade 4. Grades represent years of formal schooling. For example, if "Year 5" in your country corresponds to the fourth year of formal schooling, please choose grade 4.

(ii) Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught?

If there are not any specifications to this detail, please indicate national expectations to the best of your ability. If part of a topic does not apply [e.g., birds in part A topic (a)], please explain in the comment field.

SC408CA
SC408CB
SC408CC
SC408CD
SC408CE
SC408CF
SC408CG
SC408CT

	(i) Proportion of grade 4 students expected to be taught topic			(ii) Grade(s) topic is expected to be taught preprimary (PP) through the end of upper secondary (G12)															
	All or almost all students	Only the more able students	Not included in the curriculum through grade 4	Check the corresponding grade(s) for each topic															
				PP	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G11	G12			
C. Earth Science																			
a) Common features of the Earth's landscape (e.g., mountains, plains, deserts, rivers, oceans) and their relationship to human use (farming, irrigation, land development)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Where water is found on the Earth and how it moves in and out of the air (e.g., evaporation, rainfall, cloud formation, dew formation)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Understanding that weather can change from day to day, from season to season, and by geographic location	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Understanding what fossils are and what they can tell us about past conditions on Earth	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Objects in the solar system (the Sun, the Earth, the Moon, and other planets) and their movements (the Earth and other planets revolve around the Sun, the Moon revolves around the Earth)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Understanding how day and night result from the Earth's rotation on its axis and how the Earth's rotation results in changing shadows throughout the day	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) Understanding how seasons are related to the Earth's annual movement around the Sun	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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TIMSS 2015 Curriculum Questionnaire – Fourth Grade

This completes the Curriculum Questionnaire - Grade 4 Module.

To submit your completed questionnaire, please click the Finish button.

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Grade 4
CURRICULUM QUESTIONNAIRE

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SECTION 6:
EIGHTH GRADE –
STUDENT
QUESTIONNAIRES
GENERAL/INTEGRATED SCIENCE
VERSION & SEPARATE SCIENCE
SUBJECTS VERSION

TIMSS 2015 USER GUIDE FOR THE
INTERNATIONAL DATABASE



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Exhibit S1.6: Index of International Background Variables for the TIMSS 2015 Student Questionnaire - Eighth Grade

This table includes all questions in both versions of the eighth grade student questionnaire—the general/integrated science version and the separate science subjects version. Question numbers beginning with "SQG-" are in both versions. Question numbers beginning with "SQIS-" are in only the general/integrated science version. Question numbers beginning with "SQSS-" are in only the separate science subjects version.

TIMSS 2015 Question Number	TIMSS 2015 Variable Name	TIMSS 2015 Variable Description (See questionnaire for full item text)	TIMSS 2011 Variable Name	Notes
SQG-01	BSBG01	Are you a girl or a boy?	BSBG01	
SQG-02a	BSBG02A	When were you born? Month	BSBG02A	
SQG-02b	BSBG02B	When were you born? Year	BSBG02B	
SQG-03	BSBG03	How often do you speak <language of test> at home?	BSBG03	
SQG-04	BSBG04	About how many books are there in your home? (Do not count magazines, newspapers, or your school books.)	BSBG04	
SQG-05	BSBG05	How many digital information devices are there in your home? Count computers, tablets, smartphones, smart TVs, and e-readers.		
SQG-06a	BSBG06A	Do you have any of these things at your home? A computer or tablet of your own	BSBG05A	Modified wording in 2015
SQG-06b	BSBG06B	Do you have any of these things at your home? A computer or tablet that is shared with other people at home	BSBG05A	Modified wording in 2015
SQG-06c	BSBG06C	Do you have any of these things at your home? Study desk/table for your use	BSBG05B	
SQG-06d	BSBG06D	Do you have any of these things at your home? Your own room	BSBG05D	
SQG-06e	BSBG06E	Do you have any of these things at your home? Internet connection	BSBG05E	
SQG-06f	BSBG06F	Do you have any of these things at your home? Your own mobile phone		
SQG-06g	BSBG06G	Do you have any of these things at your home? A gaming system		
SQG-06h	BSBG06H	Do you have any of these things at your home? <country-specific indicator of wealth>		
SQG-06i	BSBG06I	Do you have any of these things at your home? <country-specific indicator of wealth>		
SQG-06j	BSBG06J	Do you have any of these things at your home? <country-specific indicator of wealth>		
SQG-06k	BSBG06K	Do you have any of these things at your home? <country-specific indicator of wealth>		
SQG-07A	BSBG07A	What is the highest level of education completed by your mother (or stepmother or female guardian)?	BSBG06A	Modified response options in 2015
SQG-07B	BSBG07B	What is the highest level of education completed by your father (or stepfather or male guardian)?	BSBG06B	Modified response options in 2015
SQG-08	BSBG08	How far in your education do you expect to go?	BSBG07	Modified response options in 2015
SQG-09A	BSBG09A	Was your mother (or stepmother or female guardian) born in <country>?	BSBG08A	Modified response options in 2015
SQG-09B	BSBG09B	Was your father (or stepfather or male guardian) born in <country>?	BSBG08B	Modified response options in 2015
SQG-10A	BSBG10A	Were you born in <country>?	BSBG09A	
SQG-10B	BSBG10B	If you were not born in <country>, how old were you when you came to <country>?	BSBG09B	
SQG-11	BSBG11	About how often are you absent from school?		
SQG-12	BSBG12	How often do you eat breakfast on school days?		
SQG-13a	BSBG13A	How often do you use a computer or tablet in each of these places for schoolwork? At home		
SQG-13b	BSBG13B	How often do you use a computer or tablet in each of these places for schoolwork? At school		
SQG-13c	BSBG13C	How often do you use a computer or tablet in each of these places for schoolwork? Some other place		

Exhibit S1.6: Index of International Background Variables for the TIMSS 2015 Student Questionnaire - Eighth Grade (Continued)

TIMSS 2015 Question Number	TIMSS 2015 Variable Name	TIMSS 2015 Variable Description (See questionnaire for full item text)	TIMSS 2011 Variable Name	Notes
SQG-14a	BSBG14A	Do you use the Internet to do any of the following tasks for schoolwork? Access the textbook or other course materials		
SQG-14b	BSBG14B	Do you use the Internet to do any of the following tasks for schoolwork? Access assignments posted online by my teacher		
SQG-14c	BSBG14C	Do you use the Internet to do any of the following tasks for schoolwork? Collaborate with classmates on assignments or projects		
SQG-14d	BSBG14D	Do you use the Internet to do any of the following tasks for schoolwork? Communicate with the teacher		
SQG-14e	BSBG14E	Do you use the Internet to do any of the following tasks for schoolwork? Find information, articles, or tutorials to aid in understanding mathematics		
SQG-14f	BSBG14F	Do you use the Internet to do any of the following tasks for schoolwork? Find information, articles, or tutorials to aid in understanding science		
SQG-15a	BSBG15A	What do you think about your school? Tell how much you agree with these statements. I like being in school	BSBG12A	
SQG-15b	BSBG15B	What do you think about your school? Tell how much you agree with these statements. I feel safe when I am at school	BSBG12B	
SQG-15c	BSBG15C	What do you think about your school? Tell how much you agree with these statements. I feel like I belong at this school	BSBG12C	
SQG-15d	BSBG15D	What do you think about your school? Tell how much you agree with these statements. I like to see my classmates at school		
SQG-15e	BSBG15E	What do you think about your school? Tell how much you agree with these statements. Teachers at my school are fair to me		
SQG-15f	BSBG15F	What do you think about your school? Tell how much you agree with these statements. I am proud to go to this school		
SQG-15g	BSBG15G	What do you think about your school? Tell how much you agree with these statements. I learn a lot in school		
SQG-16a	BSBG16A	During this school year, how often have other students from your school done any of the following things to you? Made fun of me or called me names		
SQG-16b	BSBG16B	During this school year, how often have other students from your school done any of the following things to you? Left me out of their games or activities		
SQG-16c	BSBG16C	During this school year, how often have other students from your school done any of the following things to you? Spread lies about me		
SQG-16d	BSBG16D	During this school year, how often have other students from your school done any of the following things to you? Stole something from me		
SQG-16e	BSBG16E	During this school year, how often have other students from your school done any of the following things to you? Hit or hurt me		
SQG-16f	BSBG16F	During this school year, how often have other students from your school done any of the following things to you? Made me do things I didn't want to do		
SQG-16g	BSBG16G	During this school year, how often have other students from your school done any of the following things to you? Shared embarrassing information about me		
SQG-16h	BSBG16H	During this school year, how often have other students from your school done any of the following things to you? Posted embarrassing things about me online		
SQG-16i	BSBG16I	During this school year, how often have other students from your school done any of the following things to you? Threatened me		
SQM-17a	BSBM17A	How much do you agree with these statements about learning mathematics? I enjoy learning mathematics	BSBM14A	
SQM-17b	BSBM17B	How much do you agree with these statements about learning mathematics? I wish I did not have to study mathematics	BSBM14B	
SQM-17c	BSBM17C	How much do you agree with these statements about learning mathematics? Mathematics is boring	BSBM14C	
SQM-17d	BSBM17D	How much do you agree with these statements about learning mathematics? I learn many interesting things in mathematics	BSBM14D	

Exhibit S1.6: Index of International Background Variables for the TIMSS 2015 Student Questionnaire - Eighth Grade (Continued)

TIMSS 2015 Question Number	TIMSS 2015 Variable Name	TIMSS 2015 Variable Description (See questionnaire for full item text)	TIMSS 2011 Variable Name	Notes
SQM-17e	BSBM17E	How much do you agree with these statements about learning mathematics? I like mathematics	BSBM14E	
SQM-17f	BSBM17F	How much do you agree with these statements about learning mathematics? I like any schoolwork that involves numbers		
SQM-17g	BSBM17G	How much do you agree with these statements about learning mathematics? I like to solve mathematics problems		
SQM-17h	BSBM17H	How much do you agree with these statements about learning mathematics? I look forward to mathematics class		
SQM-17i	BSBM17I	How much do you agree with these statements about learning mathematics? Mathematics is one of my favorite subjects		
SQM-18a	BSBM18A	How much do you agree with these statements about your mathematics lessons? I know what my teacher expects me to do	BSBM15A	
SQM-18b	BSBM18B	How much do you agree with these statements about your mathematics lessons? My teacher is easy to understand	BSBM15C	
SQM-18c	BSBM18C	How much do you agree with these statements about your mathematics lessons? I am interested in what my teacher says	BSBM15D	
SQM-18d	BSBM18D	How much do you agree with these statements about your mathematics lessons? My teacher gives me interesting things to do	BSBM15E	
SQM-18e	BSBM18E	How much do you agree with these statements about your mathematics lessons? My teacher has clear answers to my questions		
SQM-18f	BSBM18F	How much do you agree with these statements about your mathematics lessons? My teacher is good at explaining mathematics		
SQM-18g	BSBM18G	How much do you agree with these statements about your mathematics lessons? My teacher lets me show what I have learned		
SQM-18h	BSBM18H	How much do you agree with these statements about your mathematics lessons? My teacher does a variety of things to help us learn		
SQM-18i	BSBM18I	How much do you agree with these statements about your mathematics lessons? My teacher tells me how to do better when I make a mistake		
SQM-18j	BSBM18J	How much do you agree with these statements about your mathematics lessons? My teacher listens to what I have to say		
SQM-19a	BSBM19A	How much do you agree with these statements about mathematics? I usually do well in mathematics	BSBM16A	
SQM-19b	BSBM19B	How much do you agree with these statements about mathematics? Mathematics is more difficult for me than for many of my classmates	BSBM16B	
SQM-19c	BSBM19C	How much do you agree with these statements about mathematics? Mathematics is not one of my strengths	BSBM16C	
SQM-19d	BSBM19D	How much do you agree with these statements about mathematics? I learn things quickly in mathematics	BSBM16D	
SQM-19e	BSBM19E	How much do you agree with these statements about mathematics? Mathematics makes me nervous		
SQM-19f	BSBM19F	How much do you agree with these statements about mathematics? I am good at working out difficult mathematics problems	BSBM16F	
SQM-19g	BSBM19G	How much do you agree with these statements about mathematics? My teacher tells me I am good at mathematics	BSBM16H	
SQM-19h	BSBM19H	How much do you agree with these statements about mathematics? Mathematics is harder for me than any other subject	BSBM16I	
SQM-19i	BSBM19I	How much do you agree with these statements about mathematics? Mathematics makes me confused		
SQM-20a	BSBM20A	How much do you agree with these statements about mathematics? I think learning mathematics will help me in my daily life	BSBM16J	
SQM-20b	BSBM20B	How much do you agree with these statements about mathematics? I need mathematics to learn other school subjects	BSBM16K	

Exhibit S1.6: Index of International Background Variables for the TIMSS 2015 Student Questionnaire - Eighth Grade (Continued)

TIMSS 2015 Question Number	TIMSS 2015 Variable Name	TIMSS 2015 Variable Description (See questionnaire for full item text)	TIMSS 2011 Variable Name	Notes
SQM-20c	BSBM20C	How much do you agree with these statements about mathematics? I need to do well in mathematics to get into the <university> of my choice	BSBM16L	
SQM-20d	BSBM20D	How much do you agree with these statements about mathematics? I need to do well in mathematics to get the job I want	BSBM16M	
SQM-20e	BSBM20E	How much do you agree with these statements about mathematics? I would like a job that involves using mathematics	BSBM16N	
SQM-20f	BSBM20F	How much do you agree with these statements about mathematics? It is important to learn about mathematics to get ahead in the world		
SQM-20g	BSBM20G	How much do you agree with these statements about mathematics? Learning mathematics will give me more job opportunities when I am an adult		
SQM-20h	BSBM20H	How much do you agree with these statements about mathematics? My parents think that it is important that I do well in mathematics		
SQM-20i	BSBM20I	How much do you agree with these statements about mathematics? It is important to do well in mathematics		
SQIS-21a	BSBS21A	How much do you agree with these statements about learning science? I enjoy learning science	BSBS17A	
SQIS-21b	BSBS21B	How much do you agree with these statements about learning science? I wish I did not have to study science	BSBS17B	
SQIS-21c	BSBS21C	How much do you agree with these statements about learning science? Science is boring	BSBS17D	
SQIS-21d	BSBS21D	How much do you agree with these statements about learning science? I learn many interesting things in science	BSBS17E	
SQIS-21e	BSBS21E	How much do you agree with these statements about learning science? I like science	BSBS17F	
SQIS-21f	BSBS21F	How much do you agree with these statements about learning science? I look forward to learning science in school		
SQIS-21g	BSBS21G	How much do you agree with these statements about learning science? Science teaches me how things in the world work		
SQIS-21h	BSBS21H	How much do you agree with these statements about learning science? I like to conduct science experiments		
SQIS-21i	BSBS21I	How much do you agree with these statements about learning science? Science is one of my favorite subjects		
SQIS-22a	BSBS22A	How much do you agree with these statements about your science lessons? I know what my teacher expects me to do	BSBS18A	
SQIS-22b	BSBS22B	How much do you agree with these statements about your science lessons? My teacher is easy to understand	BSBS18C	
SQIS-22c	BSBS22C	How much do you agree with these statements about your science lessons? I am interested in what my teacher says	BSBS18D	
SQIS-22d	BSBS22D	How much do you agree with these statements about your science lessons? My teacher gives me interesting things to do	BSBS18E	
SQIS-22e	BSBS22E	How much do you agree with these statements about your science lessons? My teacher has clear answers to my questions		
SQIS-22f	BSBS22F	How much do you agree with these statements about your science lessons? My teacher is good at explaining science		
SQIS-22g	BSBS22G	How much do you agree with these statements about your science lessons? My teacher lets me show what I have learned		
SQIS-22h	BSBS22H	How much do you agree with these statements about your science lessons? My teacher does a variety of things to help us learn		
SQIS-22i	BSBS22I	How much do you agree with these statements about your science lessons? My teacher tells me how to do better when I make a mistake		
SQIS-22j	BSBS22J	How much do you agree with these statements about your science lessons? My teacher listens to what I have to say		

Exhibit S1.6: Index of International Background Variables for the TIMSS 2015 Student Questionnaire - Eighth Grade (Continued)

TIMSS 2015 Question Number	TIMSS 2015 Variable Name	TIMSS 2015 Variable Description (See questionnaire for full item text)	TIMSS 2011 Variable Name	Notes
SQIS-23a	BSBS23A	How much do you agree with these statements about science? I usually do well in science	BSBS19A	
SQIS-23b	BSBS23B	How much do you agree with these statements about science? Science is more difficult for me than for many of my classmates	BSBS19B	
SQIS-23c	BSBS23C	How much do you agree with these statements about science? Science is not one of my strengths	BSBS19C	
SQIS-23d	BSBS23D	How much do you agree with these statements about science? I learn things quickly in science	BSBS19D	
SQIS-23e	BSBS23E	How much do you agree with these statements about science? I am good at working out difficult science problems	BSBS19F	
SQIS-23f	BSBS23F	How much do you agree with these statements about science? My teacher tells me I am good at science	BSBS19H	
SQIS-23g	BSBS23G	How much do you agree with these statements about science? Science is harder for me than any other subject	BSBS19I	
SQIS-23h	BSBS23H	How much do you agree with these statements about science? Science makes me confused		
SQIS-24a	BSBS24A	How much do you agree with these statements about science? I think learning science will help me in my daily life	BSBS19J	
SQIS-24b	BSBS24B	How much do you agree with these statements about science? I need science to learn other school subjects	BSBS19K	
SQIS-24c	BSBS24C	How much do you agree with these statements about science? I need to do well in science to get into the <university> of my choice	BSBS19L	
SQIS-24d	BSBS24D	How much do you agree with these statements about science? I need to do well in science to get the job I want	BSBS19M	
SQIS-24e	BSBS24E	How much do you agree with these statements about science? I would like a job that involves using science	BSBS19N	
SQIS-24f	BSBS24F	How much do you agree with these statements about science? It is important to learn about science to get ahead in the world		
SQIS-24g	BSBS24G	How much do you agree with these statements about science? Learning science will give me more job opportunities when I am an adult		
SQIS-24h	BSBS24H	How much do you agree with these statements about science? My parents think that it is important that I do well in science		
SQIS-24i	BSBS24I	How much do you agree with these statements about science? It is important to do well in science		
SQIS-25Aa	BSBM25AA	How often does your teacher give you homework in the following subjects? Mathematics	BSBM20A	Modified wording in 2015
SQIS-25Ab	BSBS25AB	How often does your teacher give you homework in the following subjects? Science	BSBS21A	Modified wording in 2015
SQIS-25Ba	BSBM25BA	When your teacher gives you homework in the following subjects, about how many minutes do you usually spend on your homework? Mathematics	BSBM20B	Modified wording in 2015
SQIS-25Ba	BSBS25BB	When your teacher gives you homework in the following subjects, about how many minutes do you usually spend on your homework? Science	BSBS21B	Modified wording in 2015
SQIS-26Aa	BSBM26AA	During the last 12 months, have you attended extra lessons or tutoring not provided by the school in the following subjects? Mathematics		
SQIS-26Ab	BSBS26AB	During the last 12 months, have you attended extra lessons or tutoring not provided by the school in the following subjects? Science		
SQIS-26Ba	BSBM26BA	For how many of the last 12 months have you attended extra lessons or tutoring? Mathematics		
SQIS-26Bb	BSBS26BB	For how many of the last 12 months have you attended extra lessons or tutoring? Science		
SQSS-21	BSBB21	Are you studying biology in school this year?	BSBB17	

Exhibit S1.6: Index of International Background Variables for the TIMSS 2015 Student Questionnaire - Eighth Grade (Continued)

TIMSS 2015 Question Number	TIMSS 2015 Variable Name	TIMSS 2015 Variable Description (See questionnaire for full item text)	TIMSS 2011 Variable Name	Notes
SQSS-22a	BSBB22A	How much do you agree with these statements about learning biology? I enjoy learning biology	BSBB18A	
SQSS-22b	BSBB22B	How much do you agree with these statements about learning biology? I wish I did not have to study biology	BSBB18B	
SQSS-22c	BSBB22C	How much do you agree with these statements about learning biology? Biology is boring	BSBB18D	
SQSS-22d	BSBB22D	How much do you agree with these statements about learning biology? I learn many interesting things in biology	BSBB18E	
SQSS-22e	BSBB22E	How much do you agree with these statements about learning biology? I like biology	BSBB18F	
SQSS-22f	BSBB22F	How much do you agree with these statements about learning biology? I look forward to learning biology in school		
SQSS-22g	BSBB22G	How much do you agree with these statements about learning biology? Biology teaches me how things in the world work		
SQSS-22h	BSBB22H	How much do you agree with these statements about learning biology? I like to conduct biology experiments		
SQSS-22i	BSBB22I	How much do you agree with these statements about learning biology? Biology is one of my favorite subjects		
SQSS-23a	BSBB23A	How much do you agree with these statements about your biology lessons? I know what my teacher expects me to do	BSBB19A	
SQSS-23b	BSBB23B	How much do you agree with these statements about your biology lessons? My teacher is easy to understand	BSBB19C	
SQSS-23c	BSBB23C	How much do you agree with these statements about your biology lessons? I am interested in what my teacher says	BSBB19D	
SQSS-23d	BSBB23D	How much do you agree with these statements about your biology lessons? My teacher gives me interesting things to do	BSBB19E	
SQSS-23e	BSBB23E	How much do you agree with these statements about your biology lessons? My teacher has clear answers to my questions		
SQSS-23f	BSBB23F	How much do you agree with these statements about your biology lessons? My teacher is good at explaining biology		
SQSS-23g	BSBB23G	How much do you agree with these statements about your biology lessons? My teacher lets me show what I have learned		
SQSS-23h	BSBB23H	How much do you agree with these statements about your biology lessons? My teacher does a variety of things to help us learn		
SQSS-23i	BSBB23I	How much do you agree with these statements about your biology lessons? My teacher tells me how to do better when I make a mistake		
SQSS-23j	BSBB23J	How much do you agree with these statements about your biology lessons? My teacher listens to what I have to say		
SQSS-24a	BSBB24A	How much do you agree with these statements about biology? I usually do well in biology	BSBB20A	
SQSS-24b	BSBB24B	How much do you agree with these statements about biology? Biology is more difficult for me than for many of my classmates	BSBB20B	
SQSS-24c	BSBB24C	How much do you agree with these statements about biology? Biology is not one of my strengths	BSBB20C	
SQSS-24d	BSBB24D	How much do you agree with these statements about biology? I learn things quickly in biology	BSBB20D	
SQSS-24e	BSBB24E	How much do you agree with these statements about biology? I am good at working out difficult biology problems	BSBB20F	
SQSS-24f	BSBB24F	How much do you agree with these statements about biology? My teacher tells me I am good at biology	BSBB20H	

Exhibit S1.6: Index of International Background Variables for the TIMSS 2015 Student Questionnaire - Eighth Grade (Continued)

TIMSS 2015 Question Number	TIMSS 2015 Variable Name	TIMSS 2015 Variable Description (See questionnaire for full item text)	TIMSS 2011 Variable Name	Notes
SQSS-24g	BSBB24G	How much do you agree with these statements about biology? Biology is harder for me than any other subject	BSBB20I	
SQSS-24h	BSBB24H	How much do you agree with these statements about biology? Biology makes me confused		
SQSS-25	BSBE25	Are you studying earth science in school this year?	BSBE21	
SQSS-26a	BSBE26A	How much do you agree with these statements about learning earth science? I enjoy learning earth science	BSBE22A	
SQSS-26b	BSBE26B	How much do you agree with these statements about learning earth science? I wish I did not have to study earth science	BSBE22B	
SQSS-26c	BSBE26C	How much do you agree with these statements about learning earth science? Earth science is boring	BSBE22D	
SQSS-26d	BSBE26D	How much do you agree with these statements about learning earth science? I learn many interesting things in earth science	BSBE22E	
SQSS-26e	BSBE26E	How much do you agree with these statements about learning earth science? I like earth science	BSBE22F	
SQSS-26f	BSBE26F	How much do you agree with these statements about learning earth science? I look forward to learning earth science in school		
SQSS-26g	BSBE26G	How much do you agree with these statements about learning earth science? Earth science teaches me how things in the world work		
SQSS-26h	BSBE26H	How much do you agree with these statements about learning earth science? I like to conduct earth science experiments		
SQSS-26i	BSBE26I	How much do you agree with these statements about learning earth science? Earth science is one of my favorite subjects		
SQSS-27a	BSBE27A	How much do you agree with these statements about your earth science lessons? I know what my teacher expects me to do	BSBE23A	
SQSS-27b	BSBE27B	How much do you agree with these statements about your earth science lessons? My teacher is easy to understand	BSBE23C	
SQSS-27c	BSBE27C	How much do you agree with these statements about your earth science lessons? I am interested in what my teacher says	BSBE23D	
SQSS-27d	BSBE27D	How much do you agree with these statements about your earth science lessons? My teacher gives me interesting things to do	BSBE23E	
SQSS-27e	BSBE27E	How much do you agree with these statements about your earth science lessons? My teacher has clear answers to my questions		
SQSS-27f	BSBE27F	How much do you agree with these statements about your earth science lessons? My teacher is good at explaining earth science		
SQSS-27g	BSBE27G	How much do you agree with these statements about your earth science lessons? My teacher lets me show what I have learned		
SQSS-27h	BSBE27H	How much do you agree with these statements about your earth science lessons? My teacher does a variety of things to help us learn		
SQSS-27i	BSBE27I	How much do you agree with these statements about your earth science lessons? My teacher tells me how to do better when I make a mistake		
SQSS-27j	BSBE27J	How much do you agree with these statements about your earth science lessons? My teacher listens to what I have to say		
SQSS-28a	BSBE28A	How much do you agree with these statements about earth science? I usually do well in earth science	BSBE24A	
SQSS-28b	BSBE28B	How much do you agree with these statements about earth science? Earth science is more difficult for me than for many of my classmates	BSBE24B	
SQSS-28c	BSBE28C	How much do you agree with these statements about earth science? Earth science is not one of my strengths	BSBE24C	

Exhibit S1.6: Index of International Background Variables for the TIMSS 2015 Student Questionnaire - Eighth Grade (Continued)

TIMSS 2015 Question Number	TIMSS 2015 Variable Name	TIMSS 2015 Variable Description (See questionnaire for full item text)	TIMSS 2011 Variable Name	Notes
SQSS-28d	BSBE28D	How much do you agree with these statements about earth science? I learn things quickly in earth science	BSBE24D	
SQSS-28e	BSBE28E	How much do you agree with these statements about earth science? I am good at working out difficult earth science problems	BSBE24E	
SQSS-28f	BSBE28F	How much do you agree with these statements about earth science? My teacher tells me I am good at earth science	BSBE24H	
SQSS-28g	BSBE28G	How much do you agree with these statements about earth science? Earth science is harder for me than any other subject	BSBE24I	
SQSS-28h	BSBE28H	How much do you agree with these statements about earth science? Earth science makes me confused		
SQSS-29	BSBC29	Are you studying chemistry in school this year?	BSBC25	
SQSS-30a	BSBC30A	How much do you agree with these statements about learning chemistry? I enjoy learning chemistry	BSBC26A	
SQSS-30b	BSBC30B	How much do you agree with these statements about learning chemistry? I wish I did not have to study chemistry	BSBC26B	
SQSS-30c	BSBC30C	How much do you agree with these statements about learning chemistry? Chemistry is boring	BSBC26D	
SQSS-30d	BSBC30D	How much do you agree with these statements about learning chemistry? I learn many interesting things in chemistry	BSBC26E	
SQSS-30e	BSBC30E	How much do you agree with these statements about learning chemistry? I like chemistry	BSBC26F	
SQSS-30f	BSBC30F	How much do you agree with these statements about learning chemistry? I look forward to learning chemistry in school		
SQSS-30g	BSBC30G	How much do you agree with these statements about learning chemistry? Chemistry teaches me how things in the world work		
SQSS-30h	BSBC30H	How much do you agree with these statements about learning chemistry? I like to conduct chemistry experiments		
SQSS-30i	BSBC30I	How much do you agree with these statements about learning chemistry? Chemistry is one of my favorite subjects		
SQSS-31a	BSBC31A	How much do you agree with these statements about your chemistry lessons? I know what my teacher expects me to do	BSBC27A	
SQSS-31b	BSBC31B	How much do you agree with these statements about your chemistry lessons? My teacher is easy to understand	BSBC27C	
SQSS-31c	BSBC31C	How much do you agree with these statements about your chemistry lessons? I am interested in what my teacher says	BSBC27D	
SQSS-31d	BSBC31D	How much do you agree with these statements about your chemistry lessons? My teacher gives me interesting things to do	BSBC27E	
SQSS-31e	BSBC31E	How much do you agree with these statements about your chemistry lessons? My teacher has clear answers to my questions		
SQSS-31f	BSBC31F	How much do you agree with these statements about your chemistry lessons? My teacher is good at explaining chemistry		
SQSS-31g	BSBC31G	How much do you agree with these statements about your chemistry lessons? My teacher lets me show what I have learned		
SQSS-31h	BSBC31H	How much do you agree with these statements about your chemistry lessons? My teacher does a variety of things to help us learn		
SQSS-31i	BSBC31I	How much do you agree with these statements about your chemistry lessons? My teacher tells me how to do better when I make a mistake		
SQSS-31j	BSBC31J	How much do you agree with these statements about your chemistry lessons? My teacher listens to what I have to say		

Exhibit S1.6: Index of International Background Variables for the TIMSS 2015 Student Questionnaire - Eighth Grade (Continued)

TIMSS 2015 Question Number	TIMSS 2015 Variable Name	TIMSS 2015 Variable Description (See questionnaire for full item text)	TIMSS 2011 Variable Name	Notes
SQSS-32a	BSBC32A	How much do you agree with these statements about chemistry? I usually do well in chemistry	BSBC28A	
SQSS-32b	BSBC32B	How much do you agree with these statements about chemistry? Chemistry is more difficult for me than for many of my classmates	BSBC28B	
SQSS-32c	BSBC32C	How much do you agree with these statements about chemistry? Chemistry is not one of my strengths	BSBC28C	
SQSS-32d	BSBC32D	How much do you agree with these statements about chemistry? I learn things quickly in chemistry	BSBC28D	
SQSS-32e	BSBC32E	How much do you agree with these statements about chemistry? I am good at working out difficult chemistry problems	BSBC28F	
SQSS-32f	BSBC32F	How much do you agree with these statements about chemistry? My teacher tells me I am good at chemistry	BSBC28H	
SQSS-32g	BSBC32G	How much do you agree with these statements about chemistry? Chemistry is harder for me than any other subject	BSBC28I	
SQSS-32h	BSBC32H	How much do you agree with these statements about chemistry? Chemistry makes me confused		
SQSS-33	BSBP33	Are you studying physics in school this year?	BSBP29	
SQSS-34a	BSBP34A	How much do you agree with these statements about learning physics? I enjoy learning physics	BSBP30A	
SQSS-34b	BSBP34B	How much do you agree with these statements about learning physics? I wish I did not have to study physics	BSBP30B	
SQSS-34c	BSBP34C	How much do you agree with these statements about learning physics? Physics is boring	BSBP30D	
SQSS-34d	BSBP34D	How much do you agree with these statements about learning physics? I learn many interesting things in physics	BSBP30E	
SQSS-34e	BSBP34E	How much do you agree with these statements about learning physics? I like physics	BSBP30F	
SQSS-34f	BSBP34F	How much do you agree with these statements about learning physics? I look forward to learning physics in school		
SQSS-34g	BSBP34G	How much do you agree with these statements about learning physics? Physics teaches me how things in the world work		
SQSS-34h	BSBP34H	How much do you agree with these statements about learning physics? I like to conduct physics experiments		
SQSS-34i	BSBP34I	How much do you agree with these statements about learning physics? Physics is one of my favorite subjects		
SQSS-35a	BSBP35A	How much do you agree with these statements about your physics lessons? I know what my teacher expects me to do	BSBP31A	
SQSS-35b	BSBP35B	How much do you agree with these statements about your physics lessons? My teacher is easy to understand	BSBP31C	
SQSS-35c	BSBP35C	How much do you agree with these statements about your physics lessons? I am interested in what my teacher says	BSBP31D	
SQSS-35d	BSBP35D	How much do you agree with these statements about your physics lessons? My teacher gives me interesting things to do	BSBP31E	
SQSS-35e	BSBP35E	How much do you agree with these statements about your physics lessons? My teacher has clear answers to my questions		
SQSS-35f	BSBP35F	How much do you agree with these statements about your physics lessons? My teacher is good at explaining physics		
SQSS-35g	BSBP35G	How much do you agree with these statements about your physics lessons? My teacher lets me show what I have learned		

Exhibit S1.6: Index of International Background Variables for the TIMSS 2015 Student Questionnaire - Eighth Grade (Continued)

TIMSS 2015 Question Number	TIMSS 2015 Variable Name	TIMSS 2015 Variable Description (See questionnaire for full item text)	TIMSS 2011 Variable Name	Notes
SQSS-35h	BSBP35H	How much do you agree with these statements about your physics lessons? My teacher does a variety of things to help us learn		
SQSS-35i	BSBP35I	How much do you agree with these statements about your physics lessons? My teacher tells me how to do better when I make a mistake		
SQSS-35j	BSBP35J	How much do you agree with these statements about your physics lessons? My teacher listens to what I have to say		
SQSS-36a	BSBP36A	How much do you agree with these statements about physics? I usually do well in physics	BSBP32A	
SQSS-36b	BSBP36B	How much do you agree with these statements about physics? Physics is more difficult for me than for many of my classmates	BSBP32B	
SQSS-36c	BSBP36C	How much do you agree with these statements about physics? Physics is not one of my strengths	BSBP32C	
SQSS-36d	BSBP36D	How much do you agree with these statements about physics? I learn things quickly in physics	BSBP32D	
SQSS-36e	BSBP36E	How much do you agree with these statements about physics? I am good at working out difficult physics problems	BSBP32F	
SQSS-36f	BSBP36F	How much do you agree with these statements about physics? My teacher tells me I am good at physics	BSBP32H	
SQSS-36g	BSBP36G	How much do you agree with these statements about physics? Physics is harder for me than any other subject	BSBP32I	
SQSS-36h	BSBP36H	How much do you agree with these statements about physics? Physics makes me confused		
SQSS-37a	BSBS37A	How much do you agree with these statements about science (including biology, earth science, chemistry, and physics)? I think learning science will help me in my daily life		
SQSS-37b	BSBS37B	How much do you agree with these statements about science (including biology, earth science, chemistry, and physics)? I need science to learn other school subjects		
SQSS-37c	BSBS37C	How much do you agree with these statements about science (including biology, earth science, chemistry, and physics)? I need to do well in science to get into the <university> of my choice		
SQSS-37d	BSBS37D	How much do you agree with these statements about science (including biology, earth science, chemistry, and physics)? I need to do well in science to get the job I want		
SQSS-37e	BSBS37E	How much do you agree with these statements about science (including biology, earth science, chemistry, and physics)? I would like a job that involves using science		
SQSS-37f	BSBS37F	How much do you agree with these statements about science (including biology, earth science, chemistry, and physics)? It is important to learn about science to get ahead in the world		
SQSS-37g	BSBS37G	How much do you agree with these statements about science (including biology, earth science, chemistry, and physics)? Learning science will give me more job opportunities when I am an adult		
SQSS-37h	BSBS37H	How much do you agree with these statements about science (including biology, earth science, chemistry, and physics)? My parents think that it is important that I do well in science		
SQSS-37i	BSBS37I	How much do you agree with these statements about science (including biology, earth science, chemistry, and physics)? It is important to do well in science		
SQSS-38Aa	BSBM38AA	How often does your teacher give you homework in each of the following subjects? Mathematics	BSBM33AA	
SQSS-38Ab	BSBB38AB	How often does your teacher give you homework in the following subjects? Biology	BSBB33AB	

Exhibit S1.6: Index of International Background Variables for the TIMSS 2015 Student Questionnaire - Eighth Grade (Continued)

TIMSS 2015 Question Number	TIMSS 2015 Variable Name	TIMSS 2015 Variable Description (See questionnaire for full item text)	TIMSS 2011 Variable Name	Notes
SQSS-38Ac	BSBE38AC	How often does your teacher give you homework in the following subjects? Earth science	BSBE33AC	
SQSS-38Ad	BSBC38AD	How often does your teacher give you homework in the following subjects? Chemistry	BSBC33AD	
SQSS-38Ae	BSBP38AE	How often does your teacher give you homework in the following subjects? Physics	BSBP33AE	
SQSS-38Ba	BSBM38BA	When your teacher gives you homework in each of the following subjects, about how many minutes do you usually spend on your homework? Mathematics	BSBM33BA	
SQSS-38Bb	BSBB38BB	When your teacher gives you homework in each of the following subjects, about how many minutes do you usually spend on your homework? Biology	BSBB33BB	
SQSS-38Bc	BSBE38BC	When your teacher gives you homework in each of the following subjects, about how many minutes do you usually spend on your homework? Earth science	BSBE33BC	
SQSS-38Bd	BSBC38BD	When your teacher gives you homework in each of the following subjects, about how many minutes do you usually spend on your homework? Chemistry	BSBC33BD	
SQSS-38Be	BSBP38BE	When your teacher gives you homework in each of the following subjects, about how many minutes do you usually spend on your homework? Physics	BSBP33BE	
SQSS-39Aa	BSBM39AA	During the last 12 months, have you attended extra lessons or tutoring not provided by the school in the following subjects? Mathematics		
SQSS-39Ab	BSBS39AB	During the last 12 months, have you attended extra lessons or tutoring not provided by the school in the following subjects? Science (including biology, earth science, chemistry, and physics)		
SQSS-39Ba	BSBM39BA	For how many of the last 12 months have you attended extra lessons or tutoring? Mathematics		
SQSS-39Bb	BSBS39BB	For how many of the last 12 months have you attended extra lessons or tutoring? Science (including biology, earth science, chemistry, and physics)		



Identification Label

TRENDS IN INTERNATIONAL MATHEMATICS AND SCIENCE STUDY

Student Questionnaire

<Grade 8>

<TIMSS National Research Center Name>

<Address>



TIMSS & PIRLS
International Study Center
Lynch School of Education, Boston College

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Directions

In this booklet, you will find questions about yourself. Some questions ask for facts while other questions ask for your opinion.

Each question is followed by a number of answers. Shade in the circle next to or under the answer of your choice as shown in Examples 1, 2, and 3.

Example 1

Do you go to school?

Fill one circle only.

Yes --

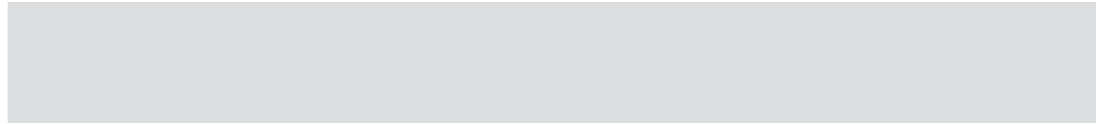
No --

Example 2

How often do you do these things?

Fill one circle for each line.

	Every day or almost every day	Once or twice a week	Once or twice a month	Never or almost never
a) I talk with my friends	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) I play sports	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) I ride a skateboard	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>



Example 3

What do you think? Tell how much you agree with these statements.

Fill **one** circle for each line.

	Agree a lot	Agree a little	Disagree a little	Disagree a lot
a) Watching movies is fun	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) I like eating ice cream	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) I do not like waking up early	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
d) I enjoy doing chores	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

- Read each question carefully, and pick the answer you think is best.
- Fill in the circle next to or under your answer.
- If you decide to change your answer, draw an **X** through your first answer, like this: ~~⊙~~. Then, fill in the circle next to or under your new answer.
- Ask for help if you do not understand something or are not sure how to answer.

About you

1

Are you a girl or a boy?

BSBG01

Fill one circle only.

Girl --

Boy --

2

When were you born?

Fill the circles next to the month and year you were born.

BSBG02A

BSBG02B

a) Month

b) Year

January --

1997 --

February --

1998 --

March --

1999 --

April --

2000 --

May --

2001 --

June --

2002 --

July --

2003 --

August --

2004 --

September --

2005 --

October --

Other --

November --

December --

3

BSBG03

How often do you speak <language of test> at home?*Fill one circle only.*Always -- Almost always -- Sometimes -- Never -- **4**

BSBG04

About how many books are there in your home? (Do not count magazines, newspapers, or your school books.)*Fill one circle only.*None or very few
(0–10 books) -- Enough to fill one shelf
(11–25 books) -- Enough to fill one bookcase
(26–100 books) -- Enough to fill two bookcases
(101–200 books) -- Enough to fill three or more bookcases
(more than 200) --

5

BSBG05

How many digital information devices are there in your home? Count computers, tablets, smartphones, smart TVs, and e-readers. (Do not count other devices.)

Fill one circle only.

- None --
- 1-3 devices --
- 4-6 devices --
- 7-10 devices --
- More than 10 devices --

6

Do you have any of these things at your home?

Fill one circle for each line.

- | | | Yes
↓ | No
↓ |
|---------|--|-----------------------|-----------------------|
| BSBG06A | a) A computer or tablet of your own --- | <input type="radio"/> | <input type="radio"/> |
| BSBG06B | b) A computer or tablet that is shared with other people at home ----- | <input type="radio"/> | <input type="radio"/> |
| BSBG06C | c) Study desk/table for your use ----- | <input type="radio"/> | <input type="radio"/> |
| BSBG06D | d) Your own room----- | <input type="radio"/> | <input type="radio"/> |
| BSBG06E | e) Internet connection ----- | <input type="radio"/> | <input type="radio"/> |
| BSBG06F | f) Your own mobile phone ----- | <input type="radio"/> | <input type="radio"/> |
| BSBG06G | g) A gaming system (e.g., PlayStation®, Wii®, Xbox®)-- | <input type="radio"/> | <input type="radio"/> |
| BSBG06H | h) <country-specific indicator of wealth> ----- | <input type="radio"/> | <input type="radio"/> |
| BSBG06I | i) <country-specific indicator of wealth> ----- | <input type="radio"/> | <input type="radio"/> |
| BSBG06J | j) <country-specific indicator of wealth> ----- | <input type="radio"/> | <input type="radio"/> |
| BSBG06K | k) <country-specific indicator of wealth> ----- | <input type="radio"/> | <input type="radio"/> |

7

BSBG07A

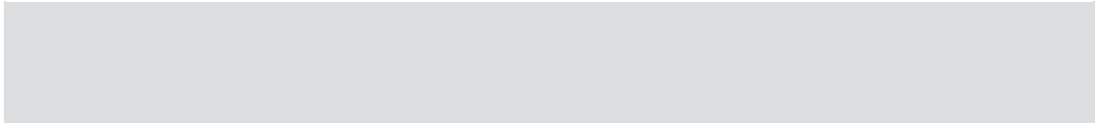
A. What is the highest level of education completed by your mother (or stepmother or female guardian)?*Fill one circle only.*

- Some <Primary education— ISCED Level 1 or
Lower secondary education—ISCED Level 2>
or did not go to school --
- <Lower secondary education—ISCED Level 2> --
- <Upper secondary education—ISCED Level 3> --
- <Post-secondary, non-tertiary
education—ISCED Level 4> --
- <Short-cycle tertiary education—ISCED Level 5> --
- <Bachelor's or equivalent level—ISCED Level 6> --
- <Postgraduate degree: Master's—ISCED
Level 7 or Doctor—ISCED Level 8> --
- I don't know --

BSBG07B

B. What is the highest level of education completed by your father (or stepfather or male guardian)?*Fill one circle only.*

- Some <Primary education— ISCED Level 1 or
Lower secondary education—ISCED Level 2>
or did not go to school --
- <Lower secondary education—ISCED Level 2> --
- <Upper secondary education—ISCED Level 3> --
- <Post-secondary, non-tertiary
education—ISCED Level 4> --
- <Short-cycle tertiary education—ISCED Level 5> --
- <Bachelor's or equivalent level—ISCED Level 6> --
- <Postgraduate degree: Master's—ISCED
Level 7 or Doctor—ISCED Level 8> --
- I don't know --



8

BSBG08

How far in your education do you expect to go?

Fill one circle only.

Finish <Lower secondary education—ISCED Level 2> -----○

Finish <Upper secondary education—ISCED Level 3> -----○

Finish <Post-secondary, non-tertiary education—ISCED Level 4> -----○

Finish <Short-cycle tertiary education—ISCED Level 5> -----○

Finish <Bachelor’s or equivalent level—ISCED Level 6> -----○

Finish <Postgraduate degree: Master’s—ISCED Level 7 or Doctor—ISCED Level 8> -----○

9

BSBG09A

A. Was your mother (or stepmother or female guardian) born in <country>?

Fill one circle only.

Yes --○

No --○

I don’t know --○

BSBG09B

B. Was your father (or stepfather or male guardian) born in <country>?

Fill one circle only.

Yes --○

No --○

I don’t know --○



<Grade 8> Student Questionnaire



IEA

TIMSS & PIRLS
International Study Center
Lynch School of Education, Boston College

10BSBG10A **A. Were you born in <country>?***Fill one circle only.*Yes -- **(If Yes, go to #11)**No -- **If No,**BSBG10B **B. If you were not born in <country>, how old were you when you came to <country>?***Fill one circle only.*Older than 10 years old -- 5 to 10 years old -- Younger than 5 years old -- **11**BSBG11 **About how often are you absent from school?***Fill one circle only.*Once a week or more -- Once every two weeks -- Once a month -- Never or almost never --

12

BSBG12

How often do you eat breakfast on school days?

Fill one circle only.

Every day --

Most days --

Sometimes --

Never or almost never --

13

How often do you use a computer or tablet in each of these places for schoolwork (including classroom tasks, homework, studying outside of class)?

Fill one circle for each line.

Every day or almost every day Once or twice a week Once or twice a month Never or almost never



BSBG13A

a) At home

BSBG13B

b) At school

BSBG13C

c) Some other place

14

Do you use the Internet to do any of the following tasks for schoolwork (including classroom tasks, homework, studying outside of class)?

*Fill **one** circle for each line.*

Yes No



- BSBG14A a) Access the textbook or other course materials ----- -----
- BSBG14B b) Access assignments posted online by my teacher ----- -----
- BSBG14C c) Collaborate with classmates on assignments or projects ----- -----
- BSBG14D d) Communicate with the teacher ----- -----
- BSBG14E e) Find information, articles, or tutorials to aid in understanding mathematics ----- -----
- BSBG14F f) Find information, articles, or tutorials to aid in understanding science ----- -----

Your School

15

What do you think about your school? Tell how much you agree with these statements.

Fill one circle for each line.

		Agree a lot	Agree a little	Disagree a little	Disagree a lot
BSBG15A	a) I like being in school	○	○	○	○
BSBG15B	b) I feel safe when I am at school	○	○	○	○
BSBG15C	c) I feel like I belong at this school	○	○	○	○
BSBG15D	d) I like to see my classmates at school	○	○	○	○
BSBG15E	e) Teachers at my school are fair to me	○	○	○	○
BSBG15F	f) I am proud to go to this school	○	○	○	○
BSBG15G	g) I learn a lot in school	○	○	○	○

16

During this school year, how often have other students from your school done any of the following things to you (including through texting or the Internet)?

Fill one circle for each line.

At least once a week Once or twice a month A few times a year Never

BSBG16A	a) Made fun of me or called me names	↓ ○	○	○	○
BSBG16B	b) Left me out of their games or activities	○	○	○	○
BSBG16C	c) Spread lies about me	○	○	○	○
BSBG16D	d) Stole something from me	○	○	○	○
BSBG16E	e) Hit or hurt me (e.g., shoving, hitting, kicking)	○	○	○	○
BSBG16F	f) Made me do things I didn't want to do	○	○	○	○
BSBG16G	g) Shared embarrassing information about me	○	○	○	○
BSBG16H	h) Posted embarrassing things about me online	○	○	○	○
BSBG16I	i) Threatened me	○	○	○	○

Mathematics in School

17

How much do you agree with these statements about learning mathematics?

Fill one circle for each line.

		Agree a lot	Agree a little	Disagree a little	Disagree a lot
BSBM17A	a) I enjoy learning mathematics -----	○	○	○	○
BSBM17B	b) I wish I did not have to study mathematics -----	○	○	○	○
BSBM17C	c) Mathematics is boring -----	○	○	○	○
BSBM17D	d) I learn many interesting things in mathematics -----	○	○	○	○
BSBM17E	e) I like mathematics -----	○	○	○	○
BSBM17F	f) I like any schoolwork that involves numbers -----	○	○	○	○
BSBM17G	g) I like to solve mathematics problems -----	○	○	○	○
BSBM17H	h) I look forward to mathematics class -----	○	○	○	○
BSBM17I	i) Mathematics is one of my favorite subjects -----	○	○	○	○

18

How much do you agree with these statements about your mathematics lessons?

Fill one circle for each line.

Agree a lot Agree a little Disagree a little Disagree a lot

↓ ↓ ↓ ↓

○ ————— ○ ————— ○ ————— ○

BSBM18A a) I know what my teacher expects me to do

BSBM18B b) My teacher is easy to understand ..

BSBM18C c) I am interested in what my teacher says

BSBM18D d) My teacher gives me interesting things to do

BSBM18E e) My teacher has clear answers to my questions

BSBM18F f) My teacher is good at explaining mathematics

BSBM18G g) My teacher lets me show what I have learned

BSBM18H h) My teacher does a variety of things to help us learn

BSBM18I i) My teacher tells me how to do better when I make a mistake

BSBM18J j) My teacher listens to what I have to say

19

How much do you agree with these statements about mathematics?

Fill one circle for each line.

Agree a lot Agree a little Disagree a little Disagree a lot

↓ ↓ ↓ ↓

○ ————— ○ ————— ○ ————— ○

BSBM19A a) I usually do well in mathematics --- ○ ————— ○ ————— ○ ————— ○

BSBM19B b) Mathematics is more difficult for me than for many of my classmates ○ ————— ○ ————— ○ ————— ○

BSBM19C c) Mathematics is not one of my strengths ○ ————— ○ ————— ○ ————— ○

BSBM19D d) I learn things quickly in mathematics ○ ————— ○ ————— ○ ————— ○

BSBM19E e) Mathematics makes me nervous ○ ————— ○ ————— ○ ————— ○

BSBM19F f) I am good at working out difficult mathematics problems ○ ————— ○ ————— ○ ————— ○

BSBM19G g) My teacher tells me I am good at mathematics ○ ————— ○ ————— ○ ————— ○

BSBM19H h) Mathematics is harder for me than any other subject ○ ————— ○ ————— ○ ————— ○

BSBM19I i) Mathematics makes me confused ○ ————— ○ ————— ○ ————— ○

20

How much do you agree with these statements about mathematics?

Fill one circle for each line.

Agree a lot Agree a little Disagree a little Disagree a lot

↓ ↓ ↓ ↓

○ ————— ○ ————— ○ ————— ○

BSBM20A a) I think learning mathematics will help me in my daily life

BSBM20B b) I need mathematics to learn other school subjects

BSBM20C c) I need to do well in mathematics to get into the <university> of my choice

BSBM20D d) I need to do well in mathematics to get the job I want

BSBM20E e) I would like a job that involves using mathematics

BSBM20F f) It is important to learn about mathematics to get ahead in the world

BSBM20G g) Learning mathematics will give me more job opportunities when I am an adult

BSBM20H h) My parents think that it is important that I do well in mathematics

BSBM20I i) It is important to do well in mathematics

Science in School

21

How much do you agree with these statements about learning science?

Fill one circle for each line.

		Agree a lot	Agree a little	Disagree a little	Disagree a lot
BSBS21A	a) I enjoy learning science	↓ ○	↓ ○	↓ ○	↓ ○
BSBS21B	b) I wish I did not have to study science	○	○	○	○
BSBS21C	c) Science is boring	○	○	○	○
BSBS21D	d) I learn many interesting things in science	○	○	○	○
BSBS21E	e) I like science	○	○	○	○
BSBS21F	f) I look forward to learning science in school	○	○	○	○
BSBS21G	g) Science teaches me how things in the world work	○	○	○	○
BSBS21H	h) I like to conduct science experiments	○	○	○	○
BSBS21I	i) Science is one of my favorite subjects	○	○	○	○

22

How much do you agree with these statements about your science lessons?

Fill one circle for each line.

Agree a lot Agree a little Disagree a little Disagree a lot

↓ ↓ ↓ ↓

- BSBS22A a) I know what my teacher expects me to do ----- ----- ----- -----
- BSBS22B b) My teacher is easy to understand -- ----- ----- -----
- BSBS22C c) I am interested in what my teacher says ----- ----- ----- -----
- BSBS22D d) My teacher gives me interesting things to do ----- ----- ----- -----
- BSBS22E e) My teacher has clear answers to my questions ----- ----- ----- -----
- BSBS22F f) My teacher is good at explaining science ----- ----- ----- -----
- BSBS22G g) My teacher lets me show what I have learned ----- ----- ----- -----
- BSBS22H h) My teacher does a variety of things to help us learn ----- ----- ----- -----
- BSBS22I i) My teacher tells me how to do better when I make a mistake ----- ----- ----- -----
- BSBS22J j) My teacher listens to what I have to say ----- ----- ----- -----

23

How much do you agree with these statements about science?

Fill one circle for each line.

Agree a lot Agree a little Disagree a little Disagree a lot



- BSBS23A a) I usually do well in science ----- ----- ----- -----
- BSBS23B b) Science is more difficult for me than for many of my classmates ---- ----- ----- -----
- BSBS23C c) Science is not one of my strengths ----- ----- ----- -----
- BSBS23D d) I learn things quickly in science ----- ----- ----- -----
- BSBS23E e) I am good at working out difficult science problems ----- ----- ----- -----
- BSBS23F f) My teacher tells me I am good at science ----- ----- ----- -----
- BSBS23G g) Science is harder for me than any other subject ----- ----- ----- -----
- BSBS23H h) Science makes me confused ----- ----- ----- -----

24

How much do you agree with these statements about science?

Fill one circle for each line.

Agree a lot Agree a little Disagree a little Disagree a lot

↓ ↓ ↓ ↓

○ ————— ○ ————— ○ ————— ○

BSBS24A a) I think learning science will help me in my daily life

BSBS24B b) I need science to learn other school subjects

BSBS24C c) I need to do well in science to get into the <university> of my choice -

BSBS24D d) I need to do well in science to get the job I want

BSBS24E e) I would like a job that involves using science

BSBS24F f) It is important to learn about science to get ahead in the world

BSBS24G g) Learning science will give me more job opportunities when I am an adult

BSBS24H h) My parents think that it is important that I do well in science

BSBS24I i) It is important to do well in science

Homework

25

A. How often does your teacher give you homework in the following subjects?

Fill one circle for each line.

		Every day	3 or 4 times a week	1 or 2 times a week	Less than once a week	Never
BSBM25AA	a) Mathematics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
BSBS25AB	b) Science	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

B. When your teacher gives you homework in the following subjects, about how many minutes do you usually spend on your homework?

Fill one circle for each line.

		My teacher never gives me homework in...	1-15 minutes	16-30 minutes	31-60 minutes	61-90 minutes	More than 90 minutes
BSBM25BA	a) Mathematics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
BSBS25BB	b) Science	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

26

A. During the last 12 months, have you attended extra lessons or tutoring not provided by the school in the following subjects?

Fill one circle for each line.

		Yes, to excel in class	Yes, to keep up in class	No
		↓	↓	↓
BSBM26AA	a) Mathematics	○	○	○
BSBS26AB	b) Science	○	○	○

B. For how many of the last 12 months have you attended extra lessons or tutoring?

Fill one circle for each line.

		Did not attend	Less than 4 months	4-8 months	More than 8 months
		↓	↓	↓	↓
BSBM26BA	a) Mathematics	○	○	○	○
BSBS26BB	b) Science	○	○	○	○

Thank You!

Thank you for filling out the questionnaire!



BOSTON
COLLEGE

TIMSS
2015

TRENDS IN INTERNATIONAL MATHEMATICS AND SCIENCE STUDY

Student Questionnaire

<Grade 8>



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International Association
for the Evaluation of
Educational Achievement

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Identification Label

TRENDS IN INTERNATIONAL MATHEMATICS AND SCIENCE STUDY

Student Questionnaire

Separate Science Subjects

<Grade 8>

<TIMSS National Research Center Name>

<Address>



TIMSS & PIRLS
International Study Center
Lynch School of Education, Boston College

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Directions

In this booklet, you will find questions about yourself. Some questions ask for facts while other questions ask for your opinion.

Each question is followed by a number of answers. Shade in the circle next to or under the answer of your choice as shown in Examples 1, 2, and 3.

Example 1

Do you go to school?

Fill one circle only.

Yes --

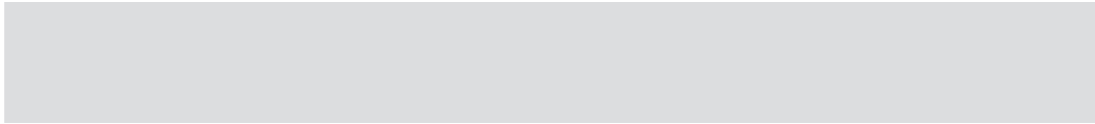
No --

Example 2

How often do you do these things?

Fill one circle for each line.

	Every day or almost every day	Once or twice a week	Once or twice a month	Never or almost never
a) I talk with my friends	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) I play sports	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) I ride a skateboard	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>



Example 3

What do you think? Tell how much you agree with these statements.

Fill **one** circle for each line.

	Agree a lot	Agree a little	Disagree a little	Disagree a lot
a) Watching movies is fun	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) I like eating ice cream	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) I do not like waking up early	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
d) I enjoy doing chores	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

- Read each question carefully, and pick the answer you think is best.
- Fill in the circle next to or under your answer.
- If you decide to change your answer, draw an **X** through your first answer, like this: ~~⊙~~. Then, fill in the circle next to or under your new answer.
- Ask for help if you do not understand something or are not sure how to answer.

About you

1

Are you a girl or a boy?

BSBG01

Fill one circle only.

Girl --

Boy --

2

When were you born?

Fill the circles next to the month and year you were born.

BSBG02A

BSBG02B

a) Month

b) Year

January --

1997 --

February --

1998 --

March --

1999 --

April --

2000 --

May --

2001 --

June --

2002 --

July --

2003 --

August --

2004 --

September --

2005 --

October --

Other --

November --

December --

3

BSBG03

How often do you speak <language of test> at home?*Fill one circle only.*Always -- Almost always -- Sometimes -- Never -- **4**

BSBG04

About how many books are there in your home? (Do not count magazines, newspapers, or your school books.)*Fill one circle only.*None or very few
(0–10 books) -- Enough to fill one shelf
(11–25 books) -- Enough to fill one bookcase
(26–100 books) -- Enough to fill two bookcases
(101–200 books) -- Enough to fill three or more bookcases
(more than 200) --

<Grade 8> Student Questionnaire

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Lynch School of Education, Boston College

5

BSBG05

How many digital information devices are there in your home? Count computers, tablets, smartphones, smart TVs, and e-readers. (Do not count other devices.)

Fill one circle only.

- None --
- 1-3 devices --
- 4-6 devices --
- 7-10 devices --
- More than 10 devices --

6

Do you have any of these things at your home?

Fill one circle for each line.

- | | | Yes
↓ | No
↓ |
|---------|--|-----------------------|-----------------------|
| BSBG06A | a) A computer or tablet of your own --- | <input type="radio"/> | <input type="radio"/> |
| BSBG06B | b) A computer or tablet that is shared with other people at home ----- | <input type="radio"/> | <input type="radio"/> |
| BSBG06C | c) Study desk/table for your use ----- | <input type="radio"/> | <input type="radio"/> |
| BSBG06D | d) Your own room----- | <input type="radio"/> | <input type="radio"/> |
| BSBG06E | e) Internet connection ----- | <input type="radio"/> | <input type="radio"/> |
| BSBG06F | f) Your own mobile phone ----- | <input type="radio"/> | <input type="radio"/> |
| BSBG06G | g) A gaming system (e.g., PlayStation®, Wii®, Xbox®)-- | <input type="radio"/> | <input type="radio"/> |
| BSBG06H | h) <country-specific indicator of wealth> ----- | <input type="radio"/> | <input type="radio"/> |
| BSBG06I | i) <country-specific indicator of wealth> ----- | <input type="radio"/> | <input type="radio"/> |
| BSBG06J | j) <country-specific indicator of wealth> ----- | <input type="radio"/> | <input type="radio"/> |
| BSBG06K | k) <country-specific indicator of wealth> ----- | <input type="radio"/> | <input type="radio"/> |

7

BSBG07A

A. What is the highest level of education completed by your mother (or stepmother or female guardian)?*Fill one circle only.*

- Some <Primary education— ISCED Level 1 or
Lower secondary education—ISCED Level 2>
or did not go to school --
- <Lower secondary education—ISCED Level 2> --
- <Upper secondary education—ISCED Level 3> --
- <Post-secondary, non-tertiary
education—ISCED Level 4> --
- <Short-cycle tertiary education—ISCED Level 5> --
- <Bachelor's or equivalent level—ISCED Level 6> --
- <Postgraduate degree: Master's—ISCED
Level 7 or Doctor—ISCED Level 8> --
- I don't know --

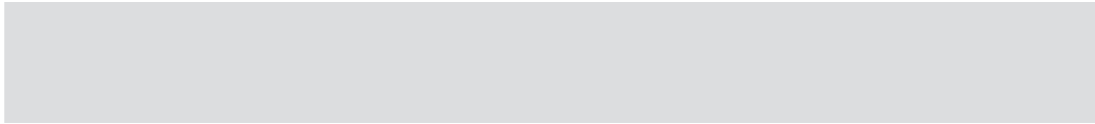
BSBG07B

B. What is the highest level of education completed by your father (or stepfather or male guardian)?*Fill one circle only.*

- Some <Primary education— ISCED Level 1 or
Lower secondary education—ISCED Level 2>
or did not go to school --
- <Lower secondary education—ISCED Level 2> --
- <Upper secondary education—ISCED Level 3> --
- <Post-secondary, non-tertiary
education—ISCED Level 4> --
- <Short-cycle tertiary education—ISCED Level 5> --
- <Bachelor's or equivalent level—ISCED Level 6> --
- <Postgraduate degree: Master's—ISCED
Level 7 or Doctor—ISCED Level 8> --
- I don't know --

<Grade 8> Student Questionnaire

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8

BSBG08

How far in your education do you expect to go?

Fill one circle only.

Finish <Lower secondary education—ISCED Level 2> -----○

Finish <Upper secondary education—ISCED Level 3> -----○

Finish <Post-secondary, non-tertiary education—ISCED Level 4> -----○

Finish <Short-cycle tertiary education—ISCED Level 5> -----○

Finish <Bachelor’s or equivalent level—ISCED Level 6> -----○

Finish <Postgraduate degree: Master’s—ISCED Level 7 or Doctor—ISCED Level 8> -----○

9

BSBG09A

A. Was your mother (or stepmother or female guardian) born in <country>?

Fill one circle only.

Yes --○

No --○

I don’t know --○

BSBG09B

B. Was your father (or stepfather or male guardian) born in <country>?

Fill one circle only.

Yes --○

No --○

I don’t know --○



<Grade 8> Student Questionnaire



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10BSBG10A **A. Were you born in <country>?***Fill one circle only.*Yes -- 
(If Yes, go to #11)No -- **If No,**BSBG10B **B. If you were not born in <country>, how old were you when you came to <country>?***Fill one circle only.*Older than 10 years old -- 5 to 10 years old -- Younger than 5 years old -- **11**BSBG11 **About how often are you absent from school?***Fill one circle only.*Once a week or more -- Once every two weeks -- Once a month -- Never or almost never --

14

Do you use the Internet to do any of the following tasks for schoolwork (including classroom tasks, homework, studying outside of class)?

*Fill **one** circle for each line.*

Yes No



- BSBG14A a) Access the textbook or other course materials ----- -----
- BSBG14B b) Access assignments posted online by my teacher ----- -----
- BSBG14C c) Collaborate with classmates on assignments or projects ----- -----
- BSBG14D d) Communicate with the teacher ----- -----
- BSBG14E e) Find information, articles, or tutorials to aid in understanding mathematics ----- -----
- BSBG14F f) Find information, articles, or tutorials to aid in understanding science ----- -----

Your School

15

What do you think about your school? Tell how much you agree with these statements.

Fill *one* circle for each line.

		Agree a lot	Agree a little	Disagree a little	Disagree a lot
BSBG15A	a) I like being in school	○	○	○	○
BSBG15B	b) I feel safe when I am at school	○	○	○	○
BSBG15C	c) I feel like I belong at this school	○	○	○	○
BSBG15D	d) I like to see my classmates at school	○	○	○	○
BSBG15E	e) Teachers at my school are fair to me	○	○	○	○
BSBG15F	f) I am proud to go to this school	○	○	○	○
BSBG15G	g) I learn a lot in school	○	○	○	○

16

During this school year, how often have other students from your school done any of the following things to you (including through texting or the Internet)?

Fill one circle for each line.

At least once a week Once or twice a month A few times a year Never

BSBG16A	a) Made fun of me or called me names -----	↓ ○	○	○	○
BSBG16B	b) Left me out of their games or activities -----	○	○	○	○
BSBG16C	c) Spread lies about me -----	○	○	○	○
BSBG16D	d) Stole something from me -----	○	○	○	○
BSBG16E	e) Hit or hurt me (e.g., shoving, hitting, kicking) -----	○	○	○	○
BSBG16F	f) Made me do things I didn't want to do -----	○	○	○	○
BSBG16G	g) Shared embarrassing information about me -----	○	○	○	○
BSBG16H	h) Posted embarrassing things about me online -----	○	○	○	○
BSBG16I	i) Threatened me -----	○	○	○	○

Mathematics in School

17

How much do you agree with these statements about learning mathematics?

Fill one circle for each line.

		Agree a lot	Agree a little	Disagree a little	Disagree a lot
BSBM17A	a) I enjoy learning mathematics -----	○	○	○	○
BSBM17B	b) I wish I did not have to study mathematics -----	○	○	○	○
BSBM17C	c) Mathematics is boring -----	○	○	○	○
BSBM17D	d) I learn many interesting things in mathematics -----	○	○	○	○
BSBM17E	e) I like mathematics -----	○	○	○	○
BSBM17F	f) I like any schoolwork that involves numbers -----	○	○	○	○
BSBM17G	g) I like to solve mathematics problems -----	○	○	○	○
BSBM17H	h) I look forward to mathematics class -----	○	○	○	○
BSBM17I	i) Mathematics is one of my favorite subjects -----	○	○	○	○

18

How much do you agree with these statements about your mathematics lessons?

Fill one circle for each line.

Agree a lot Agree a little Disagree a little Disagree a lot



- BSBM18A a) I know what my teacher expects me to do ----- ----- ----- -----
- BSBM18B b) My teacher is easy to understand -- ----- ----- -----
- BSBM18C c) I am interested in what my teacher says ----- ----- ----- -----
- BSBM18D d) My teacher gives me interesting things to do ----- ----- ----- -----
- BSBM18E e) My teacher has clear answers to my questions ----- ----- ----- -----
- BSBM18F f) My teacher is good at explaining mathematics ----- ----- ----- -----
- BSBM18G g) My teacher lets me show what I have learned ----- ----- ----- -----
- BSBM18H h) My teacher does a variety of things to help us learn ----- ----- ----- -----
- BSBM18I i) My teacher tells me how to do better when I make a mistake ----- ----- ----- -----
- BSBM18J j) My teacher listens to what I have to say ----- ----- ----- -----

19

How much do you agree with these statements about mathematics?

Fill one circle for each line.

Agree a lot Agree a little Disagree a little Disagree a lot

↓ ↓ ↓ ↓

○ ————— ○ ————— ○ ————— ○

BSBM19A a) I usually do well in mathematics --- ○ ————— ○ ————— ○ ————— ○

BSBM19B b) Mathematics is more difficult for me than for many of my classmates ○ ————— ○ ————— ○ ————— ○

BSBM19C c) Mathematics is not one of my strengths ○ ————— ○ ————— ○ ————— ○

BSBM19D d) I learn things quickly in mathematics ○ ————— ○ ————— ○ ————— ○

BSBM19E e) Mathematics makes me nervous ○ ————— ○ ————— ○ ————— ○

BSBM19F f) I am good at working out difficult mathematics problems ○ ————— ○ ————— ○ ————— ○

BSBM19G g) My teacher tells me I am good at mathematics ○ ————— ○ ————— ○ ————— ○

BSBM19H h) Mathematics is harder for me than any other subject ○ ————— ○ ————— ○ ————— ○

BSBM19I i) Mathematics makes me confused ○ ————— ○ ————— ○ ————— ○

20

How much do you agree with these statements about mathematics?

Fill one circle for each line.

Agree a lot Agree a little Disagree a little Disagree a lot

↓ ↓ ↓ ↓

○ ————— ○ ————— ○ ————— ○

BSBM20A a) I think learning mathematics will help me in my daily life

BSBM20B b) I need mathematics to learn other school subjects

BSBM20C c) I need to do well in mathematics to get into the <university> of my choice

BSBM20D d) I need to do well in mathematics to get the job I want

BSBM20E e) I would like a job that involves using mathematics

BSBM20F f) It is important to learn about mathematics to get ahead in the world

BSBM20G g) Learning mathematics will give me more job opportunities when I am an adult

BSBM20H h) My parents think that it is important that I do well in mathematics

BSBM20I i) It is important to do well in mathematics

Biology in School

21

BSBB21

Are you studying biology in school this year?

*Fill **one** circle only.*

Yes --

No -- 

(If No, go to #25)

22

How much do you agree with these statements about learning biology?

Fill one circle for each line.

Agree a lot Agree a little Disagree a little Disagree a lot

↓ ↓ ↓ ↓

- | | | | | | | | | |
|---------|--|-----------------------|---|-----------------------|---|-----------------------|---|-----------------------|
| BSBB22A | a) I enjoy learning biology | <input type="radio"/> | — | <input type="radio"/> | — | <input type="radio"/> | — | <input type="radio"/> |
| BSBB22B | b) I wish I did not have to study biology | <input type="radio"/> | — | <input type="radio"/> | — | <input type="radio"/> | — | <input type="radio"/> |
| BSBB22C | c) Biology is boring | <input type="radio"/> | — | <input type="radio"/> | — | <input type="radio"/> | — | <input type="radio"/> |
| BSBB22D | d) I learn many interesting things in biology | <input type="radio"/> | — | <input type="radio"/> | — | <input type="radio"/> | — | <input type="radio"/> |
| BSBB22E | e) I like biology | <input type="radio"/> | — | <input type="radio"/> | — | <input type="radio"/> | — | <input type="radio"/> |
| BSBB22F | f) I look forward to learning biology in school | <input type="radio"/> | — | <input type="radio"/> | — | <input type="radio"/> | — | <input type="radio"/> |
| BSBB22G | g) Biology teaches me how things in the world work | <input type="radio"/> | — | <input type="radio"/> | — | <input type="radio"/> | — | <input type="radio"/> |
| BSBB22H | h) I like to conduct biology experiments | <input type="radio"/> | — | <input type="radio"/> | — | <input type="radio"/> | — | <input type="radio"/> |
| BSBB22I | i) Biology is one of my favorite subjects | <input type="radio"/> | — | <input type="radio"/> | — | <input type="radio"/> | — | <input type="radio"/> |

23

How much do you agree with these statements about your biology lessons?

Fill one circle for each line.

Agree a lot Agree a little Disagree a little Disagree a lot

↓ ↓ ↓ ↓

- BSBB23A a) I know what my teacher expects me to do ----- ○ ——— ○ ——— ○ ——— ○
- BSBB23B b) My teacher is easy to understand -- ○ ——— ○ ——— ○ ——— ○
- BSBB23C c) I am interested in what my teacher says ----- ○ ——— ○ ——— ○ ——— ○
- BSBB23D d) My teacher gives me interesting things to do ----- ○ ——— ○ ——— ○ ——— ○
- BSBB23E e) My teacher has clear answers to my questions ----- ○ ——— ○ ——— ○ ——— ○
- BSBB23F f) My teacher is good at explaining biology ----- ○ ——— ○ ——— ○ ——— ○
- BSBB23G g) My teacher lets me show what I have learned ----- ○ ——— ○ ——— ○ ——— ○
- BSBB23H h) My teacher does a variety of things to help us learn ----- ○ ——— ○ ——— ○ ——— ○
- BSBB23I i) My teacher tells me how to do better when I make a mistake ----- ○ ——— ○ ——— ○ ——— ○
- BSBB23J j) My teacher listens to what I have to say ----- ○ ——— ○ ——— ○ ——— ○

24

How much do you agree with these statements about biology?

Fill one circle for each line.

		Agree a lot	Agree a little	Disagree a little	Disagree a lot
BSBB24A	a) I usually do well in biology -----	↓ ○	↓ ○	↓ ○	↓ ○
BSBB24B	b) Biology is more difficult for me than for many of my classmates ----	○	○	○	○
BSBB24C	c) Biology is not one of my strengths -----	○	○	○	○
BSBB24D	d) I learn things quickly in biology -----	○	○	○	○
BSBB24E	e) I am good at working out difficult biology problems -----	○	○	○	○
BSBB24F	f) My teacher tells me I am good at biology -----	○	○	○	○
BSBB24G	g) Biology is harder for me than any other subject -----	○	○	○	○
BSBB24H	h) Biology makes me confused -----	○	○	○	○

Earth Science in School

25

BSBE25

Are you studying earth science in school this year?

*Fill **one** circle only.*

Yes --

No -- 

(If No, go to #29)

26

How much do you agree with these statements about learning earth science?

Fill one circle for each line.

Agree a lot Agree a little Disagree a little Disagree a lot

↓ ↓ ↓ ↓

○ ————— ○ ————— ○ ————— ○

BSBE26A a) I enjoy learning earth science ----- ○ ————— ○ ————— ○ ————— ○

BSBE26B b) I wish I did not have to study earth science ----- ○ ————— ○ ————— ○ ————— ○

BSBE26C c) Earth science is boring ----- ○ ————— ○ ————— ○ ————— ○

BSBE26D d) I learn many interesting things in earth science ----- ○ ————— ○ ————— ○ ————— ○

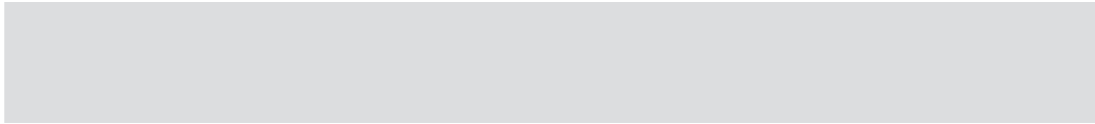
BSBE26E e) I like earth science ----- ○ ————— ○ ————— ○ ————— ○

BSBE26F f) I look forward to learning earth science in school ----- ○ ————— ○ ————— ○ ————— ○

BSBE26G g) Earth science teaches me how things in the world work ----- ○ ————— ○ ————— ○ ————— ○

BSBE26H h) I like to conduct earth science experiments ----- ○ ————— ○ ————— ○ ————— ○

BSBE26I i) Earth science is one of my favorite subjects ----- ○ ————— ○ ————— ○ ————— ○



27

How much do you agree with these statements about your earth science lessons?

*Fill **one** circle for each line.*

		Agree a lot	Agree a little	Disagree a little	Disagree a lot
BSBE27A	a) I know what my teacher expects me to do	○	○	○	○
BSBE27B	b) My teacher is easy to understand ..	○	○	○	○
BSBE27C	c) I am interested in what my teacher says	○	○	○	○
BSBE27D	d) My teacher gives me interesting things to do	○	○	○	○
BSBE27E	e) My teacher has clear answers to my questions	○	○	○	○
BSBE27F	f) My teacher is good at explaining earth science	○	○	○	○
BSBE27G	g) My teacher lets me show what I have learned	○	○	○	○
BSBE27H	h) My teacher does a variety of things to help us learn	○	○	○	○
BSBE27I	i) My teacher tells me how to do better when I make a mistake	○	○	○	○
BSBE27J	j) My teacher listens to what I have to say	○	○	○	○

28

How much do you agree with these statements about earth science?

Fill one circle for each line.

Agree a lot Agree a little Disagree a little Disagree a lot

↓ ↓ ↓ ↓

○ ————— ○ ————— ○ ————— ○

BSBE28A a) I usually do well in earth science

BSBE28B b) Earth science is more difficult for me than for many of my classmates

BSBE28C c) Earth science is not one of my strengths

BSBE28D d) I learn things quickly in earth science

BSBE28E e) I am good at working out difficult earth science problems

BSBE28F f) My teacher tells me I am good at earth science

BSBE28G g) Earth science is harder for me than any other subject

BSBE28H h) Earth science makes me confused

Chemistry in School

29

BSBC29

Are you studying chemistry in school this year?

Fill one circle only.

Yes --

No -- 

(If No, go to #33)

30

How much do you agree with these statements about learning chemistry?

Fill one circle for each line.

Agree a lot Agree a little Disagree a little Disagree a lot

↓ ↓ ↓ ↓

○ ————— ○ ————— ○ ————— ○

BSBC30A a) I enjoy learning chemistry

BSBC30B b) I wish I did not have to study chemistry

BSBC30C c) Chemistry is boring

BSBC30D d) I learn many interesting things in chemistry

BSBC30E e) I like chemistry

BSBC30F f) I look forward to learning chemistry in school

BSBC30G g) Chemistry teaches me how things in the world work

BSBC30H h) I like to conduct chemistry experiments

BSBC30I i) Chemistry is one of my favorite subjects

31

How much do you agree with these statements about your chemistry lessons?

Fill one circle for each line.

Agree a lot Agree a little Disagree a little Disagree a lot



- BSBC31A a) I know what my teacher expects me to do ----- ----- ----- -----
- BSBC31B b) My teacher is easy to understand -- ----- ----- -----
- BSBC31C c) I am interested in what my teacher says ----- ----- ----- -----
- BSBC31D d) My teacher gives me interesting things to do ----- ----- ----- -----
- BSBC31E e) My teacher has clear answers to my questions ----- ----- ----- -----
- BSBC31F f) My teacher is good at explaining chemistry ----- ----- ----- -----
- BSBC31G g) My teacher lets me show what I have learned ----- ----- ----- -----
- BSBC31H h) My teacher does a variety of things to help us learn ----- ----- ----- -----
- BSBC31I i) My teacher tells me how to do better when I make a mistake ----- ----- ----- -----
- BSBC31J j) My teacher listens to what I have to say ----- ----- ----- -----

32

How much do you agree with these statements about chemistry?

Fill one circle for each line.

Agree a lot Agree a little Disagree a little Disagree a lot

↓ ↓ ↓ ↓

○ ————— ○ ————— ○ ————— ○

BSBC32A a) I usually do well in chemistry ----- ○ ————— ○ ————— ○ ————— ○

BSBC32B b) Chemistry is more difficult for me than for many of my classmates ---- ○ ————— ○ ————— ○ ————— ○

BSBC32C c) Chemistry is not one of my strengths ----- ○ ————— ○ ————— ○ ————— ○

BSBC32D d) I learn things quickly in chemistry ----- ○ ————— ○ ————— ○ ————— ○

BSBC32E e) I am good at working out difficult chemistry problems ----- ○ ————— ○ ————— ○ ————— ○

BSBC32F f) My teacher tells me I am good at chemistry ----- ○ ————— ○ ————— ○ ————— ○

BSBC32G g) Chemistry is harder for me than any other subject ----- ○ ————— ○ ————— ○ ————— ○

BSBC32H h) Chemistry makes me confused ----- ○ ————— ○ ————— ○ ————— ○

Physics in School

33

BSBP33

Are you studying physics in school this year?

Fill one circle only.

Yes --

No -- 

(If No, go to #37)

34

How much do you agree with these statements about learning physics?

Fill one circle for each line.

Agree a lot Agree a little Disagree a little Disagree a lot

↓ ↓ ↓ ↓

- BSBP34A a) I enjoy learning physics ----- ○ ——— ○ ——— ○ ——— ○
- BSBP34B b) I wish I did not have to study
physics ----- ○ ——— ○ ——— ○ ——— ○
- BSBP34C c) Physics is boring ----- ○ ——— ○ ——— ○ ——— ○
- BSBP34D d) I learn many interesting
things in physics ----- ○ ——— ○ ——— ○ ——— ○
- BSBP34E e) I like physics ----- ○ ——— ○ ——— ○ ——— ○
- BSBP34F f) I look forward to learning
physics in school ----- ○ ——— ○ ——— ○ ——— ○
- BSBP34G g) Physics teaches me how things
in the world work ----- ○ ——— ○ ——— ○ ——— ○
- BSBP34H h) I like to conduct physics
experiments ----- ○ ——— ○ ——— ○ ——— ○
- BSBP34I i) Physics is one of my
favorite subjects ----- ○ ——— ○ ——— ○ ——— ○

35

How much do you agree with these statements about your physics lessons?

*Fill **one** circle for each line.*

		Agree a lot	Agree a little	Disagree a little	Disagree a lot
BSBP35A	a) I know what my teacher expects me to do	↓ ○	↓ ○	↓ ○	↓ ○
BSBP35B	b) My teacher is easy to understand ..	○	○	○	○
BSBP35C	c) I am interested in what my teacher says	○	○	○	○
BSBP35D	d) My teacher gives me interesting things to do	○	○	○	○
BSBP35E	e) My teacher has clear answers to my questions	○	○	○	○
BSBP35F	f) My teacher is good at explaining physics	○	○	○	○
BSBP35G	g) My teacher lets me show what I have learned	○	○	○	○
BSBP35H	h) My teacher does a variety of things to help us learn	○	○	○	○
BSBP35I	i) My teacher tells me how to do better when I make a mistake	○	○	○	○
BSBP35J	j) My teacher listens to what I have to say	○	○	○	○

36

How much do you agree with these statements about physics?

Fill one circle for each line.

Agree a lot Agree a little Disagree a little Disagree a lot



- BSBP36A a) I usually do well in physics ----- ----- ----- -----
- BSBP36B b) Physics is more difficult for me
than for many of my classmates ---- ----- ----- -----
- BSBP36C c) Physics is not one of
my strengths ----- ----- ----- -----
- BSBP36D d) I learn things quickly
in physics ----- ----- ----- -----
- BSBP36E e) I am good at working out
difficult physics problems ----- ----- ----- -----
- BSBP36F f) My teacher tells me I am good
at physics ----- ----- ----- -----
- BSBP36G g) Physics is harder for me than
any other subject ----- ----- ----- -----
- BSBP36H h) Physics makes me confused ----- ----- ----- -----

Learning Science

37

How much do you agree with these statements about science (including biology, earth science, chemistry, and physics)?

Fill one circle for each line.

Agree a lot Agree a little Disagree a little Disagree a lot

BSBS37A	a) I think learning science will help me in my daily life	↓	↓	↓	↓
		○	○	○	○
BSBS37B	b) I need science to learn other school subjects	○	○	○	○
BSBS37C	c) I need to do well in science to get into the <university> of my choice -	○	○	○	○
BSBS37D	d) I need to do well in science to get the job I want	○	○	○	○
BSBS37E	e) I would like a job that involves using science	○	○	○	○
BSBS37F	f) It is important to learn about science to get ahead in the world	○	○	○	○
BSBS37G	g) Learning science will give me more job opportunities when I am an adult	○	○	○	○
BSBS37H	h) My parents think that it is important that I do well in science	○	○	○	○
BSBS37I	i) It is important to do well in science	○	○	○	○

Homework

38

A. How often does your teacher give you homework in each of the following subjects?

Fill one circle for each line.

		Every day	3 or 4 times a week	1 or 2 times a week	Less than once a week	Never
BSBM38AA	a) Mathematics	○	○	○	○	○
BSBB38AB	b) Biology	○	○	○	○	○
BSBE38AC	c) Earth science	○	○	○	○	○
BSBC38AD	d) Chemistry	○	○	○	○	○
BSBP38AE	e) Physics	○	○	○	○	○

B. When your teacher gives you homework in each of the following subjects, about how many minutes do you usually spend on your homework?

Fill one circle for each line.

		My teacher never gives me homework in...	1-15 minutes	16-30 minutes	31-60 minutes	61-90 minutes	More than 90 minutes
BSBM38BA	a) Mathematics	○	○	○	○	○	○
BSBB38BB	b) Biology	○	○	○	○	○	○
BSBE38BC	c) Earth science	○	○	○	○	○	○
BSBC38BD	d) Chemistry	○	○	○	○	○	○
BSBP38BE	e) Physics	○	○	○	○	○	○

39

A. During the last 12 months, have you attended extra lessons or tutoring not provided by the school in the following subjects?

Fill one circle for each line.

		Yes, to excel in class	Yes, to keep up in class	No
		↓	↓	↓
BSBM39AA	a) Mathematics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
BSBS39AB	b) Science (including biology, earth science, chemistry, and physics)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

B. For how many of the last 12 months have you attended extra lessons or tutoring?

Fill one circle for each line.

		Did not attend	Less than 4 months	4-8 months	More than 8 months
		↓	↓	↓	↓
BSBM39BA	a) Mathematics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
BSBS39BB	b) Science (including biology, earth science, chemistry, and physics)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>





BOSTON
COLLEGE

TIMSS
2015

TRENDS IN INTERNATIONAL MATHEMATICS AND SCIENCE STUDY

Student Questionnaire

Separate Science Subjects

<Grade 8>



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TIMSS
2015

SECTION 7:
EIGHTH GRADE -
MATHEMATICS TEACHER
QUESTIONNAIRE

TIMSS 2015 USER GUIDE FOR THE
INTERNATIONAL DATABASE



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Exhibit S1.7: Index of International Background Variables for the TIMSS 2015 Mathematics Teacher Questionnaire - Eighth Grade

TIMSS 2015 Question Number	TIMSS 2015 Variable Name	TIMSS 2015 Variable Description (See questionnaire for full item text)	TIMSS 2011 Variable Name	Notes
TQG-01	BTBG01	By the end of this school year, how many years will you have been teaching altogether?	BTBG01	
TQG-02	BTBG02	Are you female or male?	BTBG02	
TQG-03	BTBG03	How old are you?	BTBG03	
TQG-04	BTBG04	What is the highest level of formal education you have completed?	BTBG04	Modified response options in 2015
TQG-05a	BTBG05A	During your <post-secondary> education, what was your major or main area(s) of study? Mathematics	BTBG05A	
TQG-05b	BTBG05B	During your <post-secondary> education, what was your major or main area(s) of study? Biology	BTBG05B	
TQG-05c	BTBG05C	During your <post-secondary> education, what was your major or main area(s) of study? Physics	BTBG05C	
TQG-05d	BTBG05D	During your <post-secondary> education, what was your major or main area(s) of study? Chemistry	BTBG05D	
TQG-05e	BTBG05E	During your <post-secondary> education, what was your major or main area(s) of study? <Earth Science>	BTBG05E	
TQG-05f	BTBG05F	During your <post-secondary> education, what was your major or main area(s) of study? Education–Mathematics	BTBG05F	
TQG-05g	BTBG05G	During your <post-secondary> education, what was your major or main area(s) of study? Education–Science	BTBG05G	
TQG-05h	BTBG05H	During your <post-secondary> education, what was your major or main area(s) of study? Education–General	BTBG05H	
TQG-05i	BTBG05I	During your <post-secondary> education, what was your major or main area(s) of study? Other	BTBG05I	
TQG-06a	BTBG06A	How would you characterize each of the following within your school? Teachers' understanding of the school's curricular goals	BTBG06B	
TQG-06b	BTBG06B	How would you characterize each of the following within your school? Teachers' degree of success in implementing the school's curriculum	BTBG06C	
TQG-06c	BTBG06C	How would you characterize each of the following within your school? Teachers' expectations for student achievement	BTBG06D	
TQG-06d	BTBG06D	How would you characterize each of the following within your school? Teachers working together to improve student achievement		
TQG-06e	BTBG06E	How would you characterize each of the following within your school? Teachers' ability to inspire students		
TQG-06f	BTBG06F	How would you characterize each of the following within your school? Parental involvement in school activities	BTBG06F	
TQG-06g	BTBG06G	How would you characterize each of the following within your school? Parental commitment to ensure that students are ready to learn		
TQG-06h	BTBG06H	How would you characterize each of the following within your school? Parental expectations for student achievement		
TQG-06i	BTBG06I	How would you characterize each of the following within your school? Parental support for student achievement	BTBG06E	
TQG-06j	BTBG06J	How would you characterize each of the following within your school? Parental pressure for the school to maintain high academic standards		
TQG-06k	BTBG06K	How would you characterize each of the following within your school? Students' desire to do well in school	BTBG06H	
TQG-06l	BTBG06L	How would you characterize each of the following within your school? Students' ability to reach school's academic goals		
TQG-06m	BTBG06M	How would you characterize each of the following within your school? Students' respect for classmates who excel in school		
TQG-06n	BTBG06N	How would you characterize each of the following within your school? Clarity of the school's educational objectives		

Exhibit S1.7: Index of International Background Variables for the TIMSS 2015 Mathematics Teacher Questionnaire - Eighth Grade (Continued)

TIMSS 2015 Question Number	TIMSS 2015 Variable Name	TIMSS 2015 Variable Description (See questionnaire for full item text)	TIMSS 2011 Variable Name	Notes
TQG-06o	BTBG06O	How would you characterize each of the following within your school? Collaboration between school leadership and teachers to plan instruction		
TQG-06p	BTBG06P	How would you characterize each of the following within your school? Amount of instructional support provided to teachers by school leadership		
TQG-06q	BTBG06Q	How would you characterize each of the following within your school? School leadership's support for teachers' professional development		
TQG-07a	BTBG07A	Thinking about your current school, indicate the extent to which you agree or disagree with each of the following statements. This school is located in a safe neighborhood	BTBG07A	
TQG-07b	BTBG07B	Thinking about your current school, indicate the extent to which you agree or disagree with each of the following statements. I feel safe at this school	BTBG07B	
TQG-07c	BTBG07C	Thinking about your current school, indicate the extent to which you agree or disagree with each of the following statements. This school's security policies and practices are sufficient	BTBG07C	
TQG-07d	BTBG07D	Thinking about your current school, indicate the extent to which you agree or disagree with each of the following statements. The students behave in an orderly manner	BTBG07D	
TQG-07e	BTBG07E	Thinking about your current school, indicate the extent to which you agree or disagree with each of the following statements. The students are respectful of the teachers	BTBG07E	
TQG-07f	BTBG07F	Thinking about your current school, indicate the extent to which you agree or disagree with each of the following statements. The students respect school property		
TQG-07g	BTBG07G	Thinking about your current school, indicate the extent to which you agree or disagree with each of the following statements. This school has clear rules about student conduct		
TQG-07h	BTBG07H	Thinking about your current school, indicate the extent to which you agree or disagree with each of the following statements. This school's rules are enforced in a fair and consistent manner		
TQG-08a	BTBG08A	In your current school, how severe is each problem? The school building needs significant repair	BTBG08A	
TQG-08b	BTBG08B	In your current school, how severe is each problem? Teachers do not have adequate workspace (e.g., for preparation, collaboration, or meeting with students)	BTBG08D	Modified wording in 2015
TQG-08c	BTBG08C	In your current school, how severe is each problem? Teachers do not have adequate instructional materials and supplies	BTBG08E	
TQG-08d	BTBG08D	In your current school, how severe is each problem? The school classrooms are not cleaned often enough		
TQG-08e	BTBG08E	In your current school, how severe is each problem? The school classrooms need maintenance work		
TQG-08f	BTBG08F	In your current school, how severe is each problem? Teachers do not have adequate technological resources		
TQG-08g	BTBG08G	In your current school, how severe is each problem? Teachers do not have adequate support for using technology		
TQG-09a	BTBG09A	How often do you have the following types of interactions with other teachers? Discuss how to teach a particular topic		
TQG-09b	BTBG09B	How often do you have the following types of interactions with other teachers? Collaborate in planning and preparing instructional materials		
TQG-09c	BTBG09C	How often do you have the following types of interactions with other teachers? Share what I have learned about my teaching experiences		
TQG-09d	BTBG09D	How often do you have the following types of interactions with other teachers? Visit another classroom to learn more about teaching		

Exhibit S1.7: Index of International Background Variables for the TIMSS 2015 Mathematics Teacher Questionnaire - Eighth Grade (Continued)

TIMSS 2015 Question Number	TIMSS 2015 Variable Name	TIMSS 2015 Variable Description (See questionnaire for full item text)	TIMSS 2011 Variable Name	Notes
TQG-09e	BTBG09E	How often do you have the following types of interactions with other teachers? Work together to try out new ideas		
TQG-09f	BTBG09F	How often do you have the following types of interactions with other teachers? Work as a group on implementing the curriculum		
TQG-09g	BTBG09G	How often do you have the following types of interactions with other teachers? Work with teachers from other grades to ensure continuity in learning		
TQG-10a	BTBG10A	How often do you feel the following way about being a teacher? I am content with my profession as a teacher		
TQG-10b	BTBG10B	How often do you feel the following way about being a teacher? I am satisfied with being a teacher at this school		
TQG-10c	BTBG10C	How often do you feel the following way about being a teacher? I find my work full of meaning and purpose		
TQG-10d	BTBG10D	How often do you feel the following way about being a teacher? I am enthusiastic about my job		
TQG-10e	BTBG10E	How often do you feel the following way about being a teacher? My work inspires me		
TQG-10f	BTBG10F	How often do you feel the following way about being a teacher? I am proud of the work I do		
TQG-10g	BTBG10G	How often do you feel the following way about being a teacher? I am going to continue teaching for as long as I can		
TQG-11a	BTBG11A	Indicate the extent to which you agree or disagree with each of the following statements. There are too many students in the classes		
TQG-11b	BTBG11B	Indicate the extent to which you agree or disagree with each of the following statements. I have too much material to cover in class		
TQG-11c	BTBG11C	Indicate the extent to which you agree or disagree with each of the following statements. I have too many teaching hours		
TQG-11d	BTBG11D	Indicate the extent to which you agree or disagree with each of the following statements. I need more time to prepare for class		
TQG-11e	BTBG11E	Indicate the extent to which you agree or disagree with each of the following statements. I need more time to assist individual students		
TQG-11f	BTBG11F	Indicate the extent to which you agree or disagree with each of the following statements. I feel too much pressure from parents		
TQG-11g	BTBG11G	Indicate the extent to which you agree or disagree with each of the following statements. I have difficulty keeping up with all of the changes to the curriculum		
TQG-11h	BTBG11H	Indicate the extent to which you agree or disagree with each of the following statements. I have too many administrative tasks		
TQG-12	BTBG12	How many students are in this class?	BTBG12	
TQG-13	BTBG13	How many <eighth grade> students experience difficulties understanding spoken <language of test>?	BTBG13	
TQG-14a	BTBG14A	How often do you do the following in teaching this class? Relate the lesson to students' daily lives	BTBG14B	
TQG-14b	BTBG14B	How often do you do the following in teaching this class? Ask students to explain their answers		
TQG-14c	BTBG14C	How often do you do the following in teaching this class? Ask students to complete challenging exercises that require them to go beyond the instruction		
TQG-14d	BTBG14D	How often do you do the following in teaching this class? Encourage classroom discussions among students		
TQG-14e	BTBG14E	How often do you do the following in teaching this class? Link new content to students' prior knowledge		
TQG-14f	BTBG14F	How often do you do the following in teaching this class? Ask students to decide their own problem solving procedures		

Exhibit S1.7: Index of International Background Variables for the TIMSS 2015 Mathematics Teacher Questionnaire - Eighth Grade (Continued)

TIMSS 2015 Question Number	TIMSS 2015 Variable Name	TIMSS 2015 Variable Description (See questionnaire for full item text)	TIMSS 2011 Variable Name	Notes
TQG-14g	BTBG14G	How often do you do the following in teaching this class? Encourage students to express their ideas in class		
TQG-15a	BTBG15A	In your view, to what extent do the following limit how you teach this class? Students lacking prerequisite knowledge or skills	BTBG15A	Modified response options in 2015
TQG-15b	BTBG15B	In your view, to what extent do the following limit how you teach this class? Students suffering from lack of basic nutrition	BTBG15B	Modified response options in 2015
TQG-15c	BTBG15C	In your view, to what extent do the following limit how you teach this class? Students suffering from not enough sleep	BTBG15C	Modified response options in 2015
TQG-15d	BTBG15D	In your view, to what extent do the following limit how you teach this class? Disruptive students	BTBG15E	Modified response options in 2015
TQG-15e	BTBG15E	In your view, to what extent do the following limit how you teach this class? Uninterested students	BTBG15F	Modified response options in 2015
TQG-15f	BTBG15F	In your view, to what extent do the following limit how you teach this class? Students with physical disabilities	BTBG15D	Modified wording and response options in 2015
TQG-15g	BTBG15G	In your view, to what extent do the following limit how you teach this class? Students with mental, emotional, or psychological disabilities	BTBG15D	Modified wording and response options in 2015
TQM-16	BTBM16	In a typical week, how much time do you spend teaching mathematics to the students in this class? (minutes)	BTBM17A BTBM17B	Hours and minutes separate variables in 2011
TQM-17a	BTBM17A	In teaching mathematics to this class, how would you characterize your confidence in doing the following? Inspiring students to learn mathematics		
TQM-17b	BTBM17B	In teaching mathematics to this class, how would you characterize your confidence in doing the following? Showing students a variety of problem solving strategies		
TQM-17c	BTBM17C	In teaching mathematics to this class, how would you characterize your confidence in doing the following? Providing challenging tasks for the highest achieving students		
TQM-17d	BTBM17D	In teaching mathematics to this class, how would you characterize your confidence in doing the following? Adapting my teaching to engage students' interest		
TQM-17e	BTBM17E	In teaching mathematics to this class, how would you characterize your confidence in doing the following? Helping students appreciate the value of learning mathematics		
TQM-17f	BTBM17F	In teaching mathematics to this class, how would you characterize your confidence in doing the following? Assessing student comprehension of mathematics		
TQM-17g	BTBM17G	In teaching mathematics to this class, how would you characterize your confidence in doing the following? Improving the understanding of struggling students		
TQM-17h	BTBM17H	In teaching mathematics to this class, how would you characterize your confidence in doing the following? Making mathematics relevant to students		
TQM-17i	BTBM17I	In teaching mathematics to this class, how would you characterize your confidence in doing the following? Developing students' higher-order thinking skills		
TQM-18a	BTBM18A	In teaching mathematics to this class, how often do you ask students to do the following? Listen to me explain new mathematics content		
TQM-18b	BTBM18B	In teaching mathematics to this class, how often do you ask students to do the following? Listen to me explain how to solve problems	BTBM19A	Modified wording in 2015
TQM-18c	BTBM18C	In teaching mathematics to this class, how often do you ask students to do the following? Memorize rules, procedures, and facts	BTBM19B	Modified wording in 2015

Exhibit S1.7: Index of International Background Variables for the TIMSS 2015 Mathematics Teacher Questionnaire - Eighth Grade (Continued)

TIMSS 2015 Question Number	TIMSS 2015 Variable Name	TIMSS 2015 Variable Description (See questionnaire for full item text)	TIMSS 2011 Variable Name	Notes
TQM-18d	BTBM18D	In teaching mathematics to this class, how often do you ask students to do the following? Work problems (individually or with peers) with my guidance	BTBM19C	Modified wording in 2015
TQM-18e	BTBM18E	In teaching mathematics to this class, how often do you ask students to do the following? Work problems together in the whole class with direct guidance from me	BTBM19D	Modified wording in 2015
TQM-18f	BTBM18F	In teaching mathematics to this class, how often do you ask students to do the following? Work problems (individually or with peers) while I am occupied by other tasks	BTBM19E	Modified wording in 2015
TQM-18g	BTBM18G	In teaching mathematics to this class, how often do you ask students to do the following? Work on problems for which there is no immediately obvious method of solution	BTBM19J	Modified wording in 2015
TQM-18h	BTBM18H	In teaching mathematics to this class, how often do you ask students to do the following? Take a written test or quiz	BTBM19K	Modified wording in 2015
TQM-18i	BTBM18I	In teaching mathematics to this class, how often do you ask students to do the following? Work in mixed ability groups		
TQM-18j	BTBM18J	In teaching mathematics to this class, how often do you ask students to do the following? Work in same ability groups		
TQM-19A	BTBM19A	Are the students in this class permitted to use calculators during mathematics lessons?	BTBM21A	
TQM-19Ba	BTBM19BA	How often do students in this class use calculators in their mathematics lessons for the following activities? Check answers	BTBM21BA	
TQM-19Bb	BTBM19BB	How often do students in this class use calculators in their mathematics lessons for the following activities? Do routine computations	BTBM21BB	
TQM-19Bc	BTBM19BC	How often do students in this class use calculators in their mathematics lessons for the following activities? Solve complex problems	BTBM21BC	
TQM-19Bd	BTBM19BD	How often do students in this class use calculators in their mathematics lessons for the following activities? Explore number concepts	BTBM21BD	
TQM-20A	BTBM20A	Do the students in this class have computers (including tablets) available to use during their mathematics lessons?	BTBM22A	Modified wording in 2015
TQM-20Ba	BTBM20BA	What access do the students have to computers? Each student has a computer		
TQM-20Bb	BTBM20BB	What access do the students have to computers? The class has computers that students can share		
TQM-20Bc	BTBM20BC	What access do the students have to computers? The school has computers that the class can use sometimes		
TQM-20Ca	BTBM20CA	How often do you have the students do the following activities on computers during mathematics lessons? Explore mathematics principles and concepts	BTBM22CA	Modified wording in 2015
TQM-20Cb	BTBM20CB	How often do you have the students do the following activities on computers during mathematics lessons? Practice skills and procedures	BTBM22CB	Modified wording in 2015
TQM-20Cc	BTBM20CC	How often do you have the students do the following activities on computers during mathematics lessons? Look up ideas and information	BTBM22CC	Modified wording in 2015
TQM-20Cd	BTBM20CD	How often do you have the students do the following activities on computers during mathematics lessons? Process and analyze data	BTBM22CD	Modified wording in 2015
TQM-21Aa	BTBM21AA	When students in this class have been taught each of the following mathematics topics. Number: Computing with whole numbers	See Question TQM-23 in 2011 for sub-topics.	
TQM-21Ab	BTBM21AB	When students in this class have been taught each of the following mathematics topics. Number: Comparing and ordering rational numbers	See Question TQM-23 in 2011 for sub-topics.	
TQM-21Ac	BTBM21AC	When students in this class have been taught each of the following mathematics topics. Number: Computing with rational numbers	See Question TQM-23 in 2011 for sub-topics.	

Exhibit S1.7: Index of International Background Variables for the TIMSS 2015 Mathematics Teacher Questionnaire - Eighth Grade (Continued)

TIMSS 2015 Question Number	TIMSS 2015 Variable Name	TIMSS 2015 Variable Description (See questionnaire for full item text)	TIMSS 2011 Variable Name	Notes
TQM-21Ad	BTBM21AD	When students in this class have been taught each of the following mathematics topics. Number: Concepts of irrational numbers	See Question TQM-23 in 2011 for sub-topics.	
TQM-21Ae	BTBM21AE	When students in this class have been taught each of the following mathematics topics. Number: Problem solving involving percents or proportions	See Question TQM-23 in 2011 for sub-topics.	
TQM-21Ba	BTBM21BA	When students in this class have been taught each of the following mathematics topics. Algebra: Simplifying and evaluating algebraic expressions	See Question TQM-23 in 2011 for sub-topics.	
TQM-21Bb	BTBM21BB	When students in this class have been taught each of the following mathematics topics. Algebra: Simple linear equations and inequalities	See Question TQM-23 in 2011 for sub-topics.	
TQM-21Bc	BTBM21BC	When students in this class have been taught each of the following mathematics topics. Algebra: Simultaneous (two variables) equations	See Question TQM-23 in 2011 for sub-topics.	
TQM-21Bd	BTBM21BD	When students in this class have been taught each of the following mathematics topics. Algebra: Numeric, algebraic, and geometric patterns or sequences	See Question TQM-23 in 2011 for sub-topics.	
TQM-21Be	BTBM21BE	When students in this class have been taught each of the following mathematics topics. Algebra: Representation of functions as ordered pairs, tables, graphs, words, or equations	See Question TQM-23 in 2011 for sub-topics.	
TQM-21Bf	BTBM21BF	When students in this class have been taught each of the following mathematics topics. Algebra: Properties of functions	See Question TQM-23 in 2011 for sub-topics.	
TQM-21Ca	BTBM21CA	When students in this class have been taught each of the following mathematics topics. Geometry: Geometric properties of angles and geometric shapes	See Question TQM-23 in 2011 for sub-topics.	
TQM-21Cb	BTBM21CB	When students in this class have been taught each of the following mathematics topics. Geometry: Congruent figures and similar triangles	See Question TQM-23 in 2011 for sub-topics.	
TQM-21Cc	BTBM21CC	When students in this class have been taught each of the following mathematics topics. Geometry: Relationship between three-dimensional shapes and their two-dimensional representations	See Question TQM-23 in 2011 for sub-topics.	
TQM-21Cd	BTBM21CD	When students in this class have been taught each of the following mathematics topics. Geometry: Using appropriate measurement formulas for perimeters, circumferences, areas, surface areas, and volumes	See Question TQM-23 in 2011 for sub-topics.	
TQM-21Ce	BTBM21CE	When students in this class have been taught each of the following mathematics topics. Geometry: Points on the Cartesian plane	See Question TQM-23 in 2011 for sub-topics.	

Exhibit S1.7: Index of International Background Variables for the TIMSS 2015 Mathematics Teacher Questionnaire - Eighth Grade (Continued)

TIMSS 2015 Question Number	TIMSS 2015 Variable Name	TIMSS 2015 Variable Description (See questionnaire for full item text)	TIMSS 2011 Variable Name	Notes
TQM-21Cf	BTBM21CF	When students in this class have been taught each of the following mathematics topics. Geometry: Translation, reflection, and rotation	See Question TQM-23 in 2011 for sub-topics.	
TQM-21Da	BTBM21DA	When students in this class have been taught each of the following mathematics topics. Data and Chance: Characteristics of data sets	See Question TQM-23 in 2011 for sub-topics.	
TQM-21Db	BTBM21DB	When students in this class have been taught each of the following mathematics topics. Data and Chance: Interpreting data sets	See Question TQM-23 in 2011 for sub-topics.	
TQM-21Dc	BTBM21DC	When students in this class have been taught each of the following mathematics topics. Data and Chance: Judging, predicting, and determining the chances of possible outcomes	See Question TQM-23 in 2011 for sub-topics.	
TQM-22A	BTBM22A	How often do you usually assign mathematics homework to the students in this class?	BTBM25A	
TQM-22B	BTBM22B	When you assign mathematics homework to the students in this class, about how many minutes do you usually assign?	BTBM25B	
TQM-22Ca	BTBM22CA	How often do you do the following with the mathematics homework assignments for this class? Correct assignments and give feedback to students	BTBM25CA	
TQM-22Cb	BTBM22CB	How often do you do the following with the mathematics homework assignments for this class? Have students correct their own homework	BTBM25CB	
TQM-22Cc	BTBM22CC	How often do you do the following with the mathematics homework assignments for this class? Discuss the homework in class	BTBM25CC	
TQM-22Cd	BTBM22CD	How often do you do the following with the mathematics homework assignments for this class? Monitor whether or not the homework was completed	BTBM25CD	
TQM-22Ce	BTBM22CE	How often do you do the following with the mathematics homework assignments for this class? Use the homework to contribute towards students' grades or marks	BTBM25CE	
TQM-23a	BTBM23A	How much emphasis do you place on the following sources to monitor students' progress in mathematics? Assessment of students' ongoing work	BTBM26A	Modified wording in 2015
TQM-23b	BTBM23B	How much emphasis do you place on the following sources to monitor students' progress in mathematics? Classroom tests	BTBM26B	
TQM-23c	BTBM23C	How much emphasis do you place on the following sources to monitor students' progress in mathematics? National or regional achievement tests	BTBM26C	
TQM-24a	BTBM24A	In the past two years, have you participated in professional development in any of the following? Mathematics content	BTBM29A	
TQM-24b	BTBM24B	In the past two years, have you participated in professional development in any of the following? Mathematics pedagogy/instruction	BTBM29B	
TQM-24c	BTBM24C	In the past two years, have you participated in professional development in any of the following? Mathematics curriculum	BTBM29C	
TQM-24d	BTBM24D	In the past two years, have you participated in professional development in any of the following? Integrating information technology into mathematics	BTBM29D	
TQM-24e	BTBM24E	In the past two years, have you participated in professional development in any of the following? Improving students' critical thinking or problem solving skills	BTBM29E	
TQM-24f	BTBM24F	In the past two years, have you participated in professional development in any of the following? Mathematics assessment	BTBM29F	
TQM-24g	BTBM24G	In the past two years, have you participated in professional development in any of the following? Addressing individual students' needs	BTBM29G	
TQM-25	BTBM25	In the past two years, how many hours in total have you spent in formal <in-service/professional development> for mathematics?		

Exhibit S1.7: Index of International Background Variables for the TIMSS 2015 Mathematics Teacher Questionnaire - Eighth Grade (Continued)

TIMSS 2015 Question Number	TIMSS 2015 Variable Name	TIMSS 2015 Variable Description (See questionnaire for full item text)	TIMSS 2011 Variable Name	Notes
TQM-26Aa	BTBM26AA	How well prepared do you feel you are to teach the following mathematics topics? Number: Computing with whole numbers	See Question TQM-30 in 2011 for sub-topics.	
TQM-26Ab	BTBM26AB	How well prepared do you feel you are to teach the following mathematics topics? Number: Comparing and ordering rational numbers	See Question TQM-30 in 2011 for sub-topics.	
TQM-26Ac	BTBM26AC	How well prepared do you feel you are to teach the following mathematics topics? Number: Computing with rational numbers	See Question TQM-30 in 2011 for sub-topics.	
TQM-26Ad	BTBM26AD	How well prepared do you feel you are to teach the following mathematics topics? Number: Concepts of irrational numbers	See Question TQM-30 in 2011 for sub-topics.	
TQM-26Ae	BTBM26AE	How well prepared do you feel you are to teach the following mathematics topics? Number: Problem solving involving percents or proportions	See Question TQM-30 in 2011 for sub-topics.	
TQM-26Ba	BTBM26BA	How well prepared do you feel you are to teach the following mathematics topics? Algebra: Simplifying and evaluating algebraic expressions	See Question TQM-30 in 2011 for sub-topics.	
TQM-26Bb	BTBM26BB	How well prepared do you feel you are to teach the following mathematics topics? Algebra: Simple linear equations and inequalities	See Question TQM-30 in 2011 for sub-topics.	
TQM-26Bc	BTBM26BC	How well prepared do you feel you are to teach the following mathematics topics? Algebra: Simultaneous (two variables) equations	See Question TQM-30 in 2011 for sub-topics.	
TQM-26Bd	BTBM26BD	How well prepared do you feel you are to teach the following mathematics topics? Algebra: Numeric, algebraic, and geometric patterns or sequences	See Question TQM-30 in 2011 for sub-topics.	
TQM-26Be	BTBM26BE	How well prepared do you feel you are to teach the following mathematics topics? Algebra: Representation of functions as ordered pairs, tables, graphs, words, or equations	See Question TQM-30 in 2011 for sub-topics.	
TQM-26Bf	BTBM26BF	How well prepared do you feel you are to teach the following mathematics topics? Algebra: Properties of functions	See Question TQM-30 in 2011 for sub-topics.	
TQM-26Ca	BTBM26CA	How well prepared do you feel you are to teach the following mathematics topics? Geometry: Geometric properties of angles and geometric shapes	See Question TQM-30 in 2011 for sub-topics.	
TQM-26Cb	BTBM26CB	How well prepared do you feel you are to teach the following mathematics topics? Geometry: Congruent figures and similar triangles	See Question TQM-30 in 2011 for sub-topics.	

Exhibit S1.7: Index of International Background Variables for the TIMSS 2015 Mathematics Teacher Questionnaire - Eighth Grade (Continued)

TIMSS 2015 Question Number	TIMSS 2015 Variable Name	TIMSS 2015 Variable Description (See questionnaire for full item text)	TIMSS 2011 Variable Name	Notes
TQM-26Cc	BTBM26CC	How well prepared do you feel you are to teach the following mathematics topics? Geometry: Relationship between three-dimensional shapes and their two-dimensional representations	See Question TQM-30 in 2011 for sub-topics.	
TQM-26Cd	BTBM26CD	How well prepared do you feel you are to teach the following mathematics topics? Geometry: Using appropriate measurement formulas for perimeters, circumferences, areas, surface areas, and volumes	See Question TQM-30 in 2011 for sub-topics.	
TQM-26Ce	BTBM26CE	How well prepared do you feel you are to teach the following mathematics topics? Geometry: Points on the Cartesian plane	See Question TQM-30 in 2011 for sub-topics.	
TQM-26Cf	BTBM26CF	How well prepared do you feel you are to teach the following mathematics topics? Geometry: Translation, reflection, and rotation	See Question TQM-30 in 2011 for sub-topics.	
TQM-26Da	BTBM26DA	How well prepared do you feel you are to teach the following mathematics topics? Data and Chance: Characteristics of data sets	See Question TQM-30 in 2011 for sub-topics.	
TQM-26Db	BTBM26DB	How well prepared do you feel you are to teach the following mathematics topics? Data and Chance: Interpreting data sets	See Question TQM-30 in 2011 for sub-topics.	
TQM-26Dc	BTBM26DC	How well prepared do you feel you are to teach the following mathematics topics? Data and Chance: Judging, predicting, and determining the chances of possible outcomes	See Question TQM-30 in 2011 for sub-topics.	



Identification Label

TRENDS IN INTERNATIONAL MATHEMATICS AND SCIENCE STUDY

Teacher Questionnaire Mathematics

<Grade 8>

<TIMSS National Research Center Name>

<Address>



TIMSS & PIRLS
International Study Center
Lynch School of Education, Boston College

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Teacher Questionnaire

Your school has agreed to participate in TIMSS 2015 (Trends in International Mathematics and Science Study), an educational research project sponsored by the International Association for the Evaluation of Educational Achievement (IEA). TIMSS measures trends in student achievement in mathematics and science and studies differences in national education systems in almost 60 countries in order to help improve teaching and learning worldwide.

This questionnaire is addressed to teachers of <eighth grade> students, and seeks information about teachers' academic and professional backgrounds, classroom resources, instructional practices, and attitudes toward teaching. Since your class has been selected as part of a nationwide sample, your responses are very important in helping to describe secondary education in <country>.

Some of the questions in the questionnaire refer to the **"TIMSS class"** or **"this class"**. This is the class that is identified on the front of this booklet, and which will be tested as part of TIMSS in your school. If you teach some but not all of the students in the TIMSS class, please think only of the students that you teach when answering these class-specific questions. It is important that you answer each question carefully so that the information that you provide reflects your situation as accurately as possible.

Since TIMSS is an international study and all countries are using the same questionnaire, you may find that some of the questions seem unusual or are not entirely relevant to you or schools in <country>. Nevertheless, it is important that you do your best to answer all of the questions so comparisons can be made across countries in the studies.

It is estimated that you will need approximately 35 minutes to complete this questionnaire. We appreciate the time and effort that this takes and thank you for your cooperation and contribution.

When you have completed the questionnaire, please place it in the accompanying envelope and return it to:

<Insert country-specific information here>.

Thank you.

TIMSS 2015

About You

1 _____
BTBG01 **By the end of this school year, how many years will you have been teaching altogether?**

_____ years
Please **round** to the nearest whole number.

2 _____
BTBG02 **Are you female or male?**

Check **one** circle only.

Female ---
Male ---

3 _____
BTBG03 **How old are you?**

Check **one** circle only.

Under 25 ---
25–29 ---
30–39 ---
40–49 ---
50–59 ---
60 or more ---

4 _____
BTBG04 **What is the highest level of formal education you have completed?**

Check **one** circle only.

Did not complete <Upper secondary education—ISCED Level 3> ---

<Upper secondary education—ISCED Level 3> --- →

(If you have not completed <post-secondary or tertiary education>, go to #6)

<Post-secondary, non-tertiary education—ISCED Level 4> ---

<Short-cycle tertiary education—ISCED Level 5> ---

<Bachelor's or equivalent level—ISCED Level 6> ---

<Master's or equivalent level—ISCED Level 7> ---

<Doctor or equivalent level—ISCED Level 8> ---

5 _____
BTBG05 **During your <post-secondary> education, what was your major or main area(s) of study?**

Check **one** circle for each line.

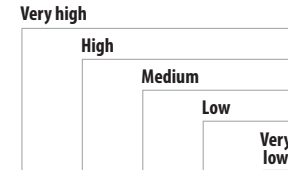
	Yes	No	
a) Mathematics -----	<input type="radio"/>	<input type="radio"/>	BTBG05A
b) Biology -----	<input type="radio"/>	<input type="radio"/>	BTBG05B
c) Physics -----	<input type="radio"/>	<input type="radio"/>	BTBG05C
d) Chemistry -----	<input type="radio"/>	<input type="radio"/>	BTBG05D
e) <Earth Science> -----	<input type="radio"/>	<input type="radio"/>	BTBG05E
f) Education—Mathematics -----	<input type="radio"/>	<input type="radio"/>	BTBG05F
g) Education—Science -----	<input type="radio"/>	<input type="radio"/>	BTBG05G
h) Education—General -----	<input type="radio"/>	<input type="radio"/>	BTBG05H
i) Other -----	<input type="radio"/>	<input type="radio"/>	BTBG05I

School Emphasis on Academic Success

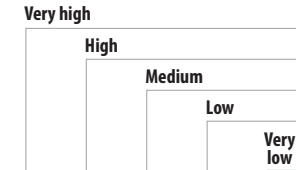
6

How would you characterize each of the following within your school?

Check **one** circle for each line.



Check **one** circle for each line.



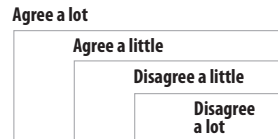
- | | | | | | |
|---------|---|---|--|---|---------|
| BTBG06A | a) Teachers' understanding of the school's curricular goals | <input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/> | k) Students' desire to do well in school | <input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/> | BTBG06K |
| BTBG06B | b) Teachers' degree of success in implementing the school's curriculum | <input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/> | l) Students' ability to reach school's academic goals | <input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/> | BTBG06L |
| BTBG06C | c) Teachers' expectations for student achievement | <input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/> | m) Students' respect for classmates who excel in school | <input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/> | BTBG06M |
| BTBG06D | d) Teachers working together to improve student achievement | <input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/> | n) Clarity of the school's educational objectives | <input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/> | BTBG06N |
| BTBG06E | e) Teachers' ability to inspire students | <input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/> | o) Collaboration between school leadership and teachers to plan instruction | <input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/> | BTBG06O |
| BTBG06F | f) Parental involvement in school activities | <input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/> | p) Amount of instructional support provided to teachers by school leadership | <input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/> | BTBG06P |
| BTBG06G | g) Parental commitment to ensure that students are ready to learn | <input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/> | q) School leadership's support for teachers' professional development | <input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/> | BTBG06Q |
| BTBG06H | h) Parental expectations for student achievement | <input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/> | | | |
| BTBG06I | i) Parental support for student achievement | <input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/> | | | |
| BTBG06J | j) Parental pressure for the school to maintain high academic standards | <input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/> | | | |

School Environment

7

Thinking about your current school, indicate the extent to which you agree or disagree with each of the following statements.

Check **one** circle for each line.

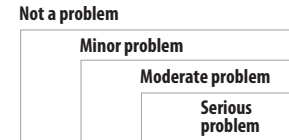


- BTBG07A a) This school is located in a safe neighborhood ----- ○ — ○ — ○ — ○
- BTBG07B b) I feel safe at this school ----- ○ — ○ — ○ — ○
- BTBG07C c) This school's security policies and practices are sufficient ----- ○ — ○ — ○ — ○
- BTBG07D d) The students behave in an orderly manner ----- ○ — ○ — ○ — ○
- BTBG07E e) The students are respectful of the teachers ----- ○ — ○ — ○ — ○
- BTBG07F f) The students respect school property ----- ○ — ○ — ○ — ○
- BTBG07G g) This school has clear rules about student conduct ----- ○ — ○ — ○ — ○
- BTBG07H h) This school's rules are enforced in a fair and consistent manner ----- ○ — ○ — ○ — ○

8

In your current school, how severe is each problem?

Check **one** circle for each line.

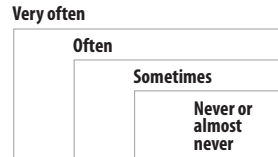


- a) The school building needs significant repair ----- ○ — ○ — ○ — ○ BTBG08A
- b) Teachers do not have adequate workspace (e.g., for preparation, collaboration, or meeting with students) ----- ○ — ○ — ○ — ○ BTBG08B
- c) Teachers do not have adequate instructional materials and supplies ----- ○ — ○ — ○ — ○ BTBG08C
- d) The school classrooms are not cleaned often enough ----- ○ — ○ — ○ — ○ BTBG08D
- e) The school classrooms need maintenance work ----- ○ — ○ — ○ — ○ BTBG08E
- f) Teachers do not have adequate technological resources ----- ○ — ○ — ○ — ○ BTBG08F
- g) Teachers do not have adequate support for using technology ----- ○ — ○ — ○ — ○ BTBG08G

About Being a Teacher

9 How often do you have the following types of interactions with other teachers?

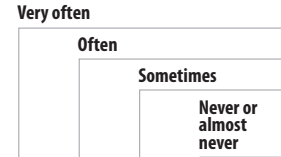
Check **one** circle for each line.



- BTBG09A a) Discuss how to teach a particular topic ----- ○ — ○ — ○ — ○
- BTBG09B b) Collaborate in planning and preparing instructional materials ----- ○ — ○ — ○ — ○
- BTBG09C c) Share what I have learned about my teaching experiences ----- ○ — ○ — ○ — ○
- BTBG09D d) Visit another classroom to learn more about teaching ----- ○ — ○ — ○ — ○
- BTBG09E e) Work together to try out new ideas ----- ○ — ○ — ○ — ○
- BTBG09F f) Work as a group on implementing the curriculum ----- ○ — ○ — ○ — ○
- BTBG09G g) Work with teachers from other grades to ensure continuity in learning ----- ○ — ○ — ○ — ○

10 How often do you feel the following way about being a teacher?

Check **one** circle for each line.

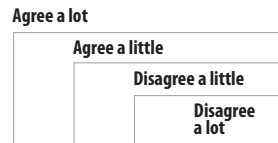


- BTBG10A a) I am content with my profession as a teacher ----- ○ — ○ — ○ — ○
- BTBG10B b) I am satisfied with being a teacher at this school ----- ○ — ○ — ○ — ○
- BTBG10C c) I find my work full of meaning and purpose ----- ○ — ○ — ○ — ○
- BTBG10D d) I am enthusiastic about my job ----- ○ — ○ — ○ — ○
- BTBG10E e) My work inspires me ----- ○ — ○ — ○ — ○
- BTBG10F f) I am proud of the work I do ----- ○ — ○ — ○ — ○
- BTBG10G g) I am going to continue teaching for as long as I can --- ○ — ○ — ○ — ○

11

Indicate the extent to which you agree or disagree with each of the following statements.

Check **one** circle for each line.



- BTBG11A a) There are too many students in the classes ----- — — —
- BTBG11B b) I have too much material to cover in class ----- — — —
- BTBG11C c) I have too many teaching hours ----- — — —
- BTBG11D d) I need more time to prepare for class ----- — — —
- BTBG11E e) I need more time to assist individual students ----- — — —
- BTBG11F f) I feel too much pressure from parents ----- — — —
- BTBG11G g) I have difficulty keeping up with all of the changes to the curriculum ----- — — —
- BTBG11H h) I have too many administrative tasks ----- — — —



About Teaching the TIMSS Class

12

BTBG12

How many students are in this class?

_____ students
Write in the number.

13

BTBG13

How many <eighth grade> students experience difficulties understanding spoken <language of test>?

_____ students in this class
Write in the number.

14

How often do you do the following in teaching this class?

Check **one** circle for each line.

Every or almost every lesson
About half the lessons
Some lessons
Never

BTBG14A

a) Relate the lesson to students' daily lives ----- — — —

BTBG14B

b) Ask students to explain their answers ----- — — —

BTBG14C

c) Ask students to complete challenging exercises that require them to go beyond the instruction ----- — — —

BTBG14D

d) Encourage classroom discussions among students ----- — — —

BTBG14E

e) Link new content to students' prior knowledge ----- — — —

BTBG14F

f) Ask students to decide their own problem solving procedures ----- — — —

BTBG14G

g) Encourage students to express their ideas in class ----- — — —

15

In your view, to what extent do the following limit how you teach this class?

Check **one** circle for each line.

Not at all
Some
A lot

a) Students lacking prerequisite knowledge or skills ----- — —

BTBG15A

b) Students suffering from lack of basic nutrition ----- — —

BTBG15B

c) Students suffering from not enough sleep ----- — —

BTBG15C

d) Disruptive students ----- — —

BTBG15D

e) Uninterested students ----- — —

BTBG15E

f) Students with physical disabilities ----- — —

BTBG15F

g) Students with mental, emotional, or psychological disabilities ----- — —

BTBG15G

Teaching Mathematics to the TIMSS Class

16

BTBM16

In a typical week, how much time do you spend teaching mathematics to the students in this class?

_____ minutes per week
Write in the number of minutes per week.
Please convert the number of hours into minutes.

17

In teaching mathematics to this class, how would you characterize your confidence in doing the following?

Check **one** circle for each line.



BTBM17A

a) Inspiring students to learn mathematics ----- ○ — ○ — ○ — ○

BTBM17B

b) Showing students a variety of problem solving strategies ----- ○ — ○ — ○ — ○

BTBM17C

c) Providing challenging tasks for the highest achieving students ----- ○ — ○ — ○ — ○

BTBM17D

d) Adapting my teaching to engage students' interest ----- ○ — ○ — ○ — ○

BTBM17E

e) Helping students appreciate the value of learning mathematics ----- ○ — ○ — ○ — ○

BTBM17F

f) Assessing student comprehension of mathematics ----- ○ — ○ — ○ — ○

BTBM17G

g) Improving the understanding of struggling students ----- ○ — ○ — ○ — ○

BTBM17H

h) Making mathematics relevant to students ----- ○ — ○ — ○ — ○

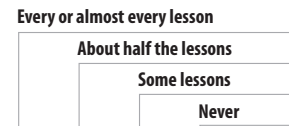
BTBM17I

i) Developing students' higher-order thinking skills ----- ○ — ○ — ○ — ○

18

In teaching mathematics to this class, how often do you ask students to do the following?

Check **one** circle for each line.



a) Listen to me explain new mathematics content ----- ○ — ○ — ○ — ○

BTBM18A

b) Listen to me explain how to solve problems ----- ○ — ○ — ○ — ○

BTBM18B

c) Memorize rules, procedures, and facts ----- ○ — ○ — ○ — ○

BTBM18C

d) Work problems (individually or with peers) with my guidance ----- ○ — ○ — ○ — ○

BTBM18D

e) Work problems together in the whole class with direct guidance from me ----- ○ — ○ — ○ — ○

BTBM18E

f) Work problems (individually or with peers) while I am occupied by other tasks ----- ○ — ○ — ○ — ○

BTBM18F

g) Work on problems for which there is no immediately obvious method of solution --- ○ — ○ — ○ — ○

BTBM18G

h) Take a written test or quiz ----- ○ — ○ — ○ — ○

BTBM18H

i) Work in mixed ability groups -- ○ — ○ — ○ — ○

BTBM18I

j) Work in same ability groups --- ○ — ○ — ○ — ○

BTBM18J

Using Calculators and Computers for Teaching Mathematics to the TIMSS Class

19

BTBM19A

A. Are the students in this class permitted to use calculators during mathematics lessons?

Check **one** circle only.

- Yes, with unrestricted use ---
 - Yes, with restricted use ---
 - No, calculators are not permitted ---
- (If No, go to #20)

If Yes,

B. How often do students in this class use calculators in their mathematics lessons for the following activities?

Check **one** circle for each line.

- Every or almost every lesson
- About half the lessons
- Some lessons
- Never

BTBM19BA
BTBM19BB
BTBM19BC
BTBM19BD

- a) Check answers -----
- b) Do routine computations -----
- c) Solve complex problems -----
- d) Explore number concepts -----

20

BTBM20A

A. Do the students in this class have computers (including tablets) available to use during their mathematics lessons?

Check **one** circle only.

- Yes ---
 - No ---
- (If No, go to #21)

If Yes,

B. What access do the students have to computers?

Check **one** circle for each line.

- Yes
- No

- a) Each student has a computer -----
- b) The class has computers that students can share -----
- c) The school has computers that the class can use sometimes -----

BTBM20BA
BTBM20BB
BTBM20BC

C. How often do you have the students do the following activities on computers during mathematics lessons?

Check **one** circle for each line.

- Every or almost every day
- Once or twice a week
- Once or twice a month
- Never or almost never

- a) Explore mathematics principles and concepts -----
- b) Practice skills and procedures -----
- c) Look up ideas and information -----
- d) Process and analyze data -----

BTBM20CA
BTBM20CB
BTBM20CC
BTBM20CD

Mathematics Topics Taught to the TIMSS Class

21

The following list includes the main topics addressed by the TIMSS mathematics test. Choose the response that best describes when the students in this class have been taught each topic. If a topic was in the curriculum before the <eighth grade>, please choose “Mostly taught before this year.” If a topic was taught half this year but not yet completed, please choose “Mostly taught this year.” If a topic is not in the curriculum, please choose “Not yet taught or just introduced.”

Check **one** circle for each line.



A. Number

- BTBM21AA a) Computing with whole numbers ----- ○ — ○ — ○
- BTBM21AB b) Comparing and ordering rational numbers ----- ○ — ○ — ○
- BTBM21AC c) Computing with rational numbers (fractions, decimals, and integers) ----- ○ — ○ — ○
- BTBM21AD d) Concepts of irrational numbers ----- ○ — ○ — ○
- BTBM21AE e) Problem solving involving percents or proportions ----- ○ — ○ — ○

B. Algebra

- BTBM21BA a) Simplifying and evaluating algebraic expressions ----- ○ — ○ — ○
- BTBM21BB b) Simple linear equations and inequalities ----- ○ — ○ — ○
- BTBM21BC c) Simultaneous (two variables) equations ----- ○ — ○ — ○
- BTBM21BD d) Numeric, algebraic, and geometric patterns or sequences (extension, missing terms, generalization of patterns) ----- ○ — ○ — ○
- BTBM21BE e) Representation of functions as ordered pairs, tables, graphs, words, or equations ----- ○ — ○ — ○
- BTBM21BF f) Properties of functions (slopes, intercepts, etc.) ----- ○ — ○ — ○

C. Geometry

- BTBM21CA a) Geometric properties of angles and geometric shapes (triangles, quadrilaterals, and other common polygons) ----- ○ — ○ — ○
- BTBM21CB b) Congruent figures and similar triangles ----- ○ — ○ — ○
- BTBM21CC c) Relationship between three-dimensional shapes and their two-dimensional representations ----- ○ — ○ — ○
- BTBM21CD d) Using appropriate measurement formulas for perimeters, circumferences, areas, surface areas, and volumes ----- ○ — ○ — ○
- BTBM21CE e) Points on the Cartesian plane ----- ○ — ○ — ○
- BTBM21CF f) Translation, reflection, and rotation ----- ○ — ○ — ○

D. Data and Chance

- BTBM21DA a) Characteristics of data sets (mean, median, mode, and shape of distributions) ----- ○ — ○ — ○
- BTBM21DB b) Interpreting data sets (e.g., draw conclusions, make predictions, and estimate values between and beyond given data points) ----- ○ — ○ — ○
- BTBM21DC c) Judging, predicting, and determining the chances of possible outcomes ----- ○ — ○ — ○

**Mathematics Homework
for the TIMSS Class**

**Mathematics Assessment
of the TIMSS Class**

22

23

BTBM22A

A. How often do you usually assign mathematics homework to the students in this class?

How much emphasis do you place on the following sources to monitor students' progress in mathematics?

Check **one** circle only.

Check **one** circle for each line.

- I do not assign mathematics homework --- (Go to #23)
- Less than once a week ---
- 1 or 2 times a week ---
- 3 or 4 times a week ---
- Every day ---

- | | | | | |
|--|-----------------------|-----------------------|-----------------------|---------|
| | Major emphasis | Some emphasis | Little or no emphasis | |
| a) Assessment of students' ongoing work ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | BTBM23A |
| b) Classroom tests (for example, teacher-made or textbook tests) ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | BTBM23B |
| c) National or regional achievement tests ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | BTBM23C |

BTBM22B

B. When you assign mathematics homework to the students in this class, about how many minutes do you usually assign? (Consider the time it would take an average student in your class.)

Check **one** circle only.

- 15 minutes or less ---
- 16–30 minutes ---
- 31–60 minutes ---
- 61–90 minutes ---
- More than 90 minutes ---

C. How often do you do the following with the mathematics homework assignments for this class?

Check **one** circle for each line.

BTBM22CA

a) Correct assignments and give feedback to students -----

BTBM22CB

b) Have students correct their own homework -----

BTBM22CC

c) Discuss the homework in class -----

BTBM22CD

d) Monitor whether or not the homework was completed -----

BTBM22CE

e) Use the homework to contribute towards students' grades or marks -----

Preparation to Teach Mathematics

24

In the past two years, have you participated in professional development in any of the following?

Check **one** circle for each line.

- | | | Yes | No |
|---------|--|-----------------------|-----------------------|
| BTBM24A | a) Mathematics content ----- | <input type="radio"/> | <input type="radio"/> |
| BTBM24B | b) Mathematics pedagogy/instruction ----- | <input type="radio"/> | <input type="radio"/> |
| BTBM24C | c) Mathematics curriculum ----- | <input type="radio"/> | <input type="radio"/> |
| BTBM24D | d) Integrating information technology into mathematics ----- | <input type="radio"/> | <input type="radio"/> |
| BTBM24E | e) Improving students' critical thinking or problem solving skills ----- | <input type="radio"/> | <input type="radio"/> |
| BTBM24F | f) Mathematics assessment ----- | <input type="radio"/> | <input type="radio"/> |
| BTBM24G | g) Addressing individual students' needs ----- | <input type="radio"/> | <input type="radio"/> |

25

BTBM25 **In the past two years, how many hours in total have you spent in formal <in-service/professional development> (e.g., workshops, seminars, etc.) for mathematics?**

Check **one** circle only.

- None ---
- Less than 6 hours ---
- 6–15 hours ---
- 16–35 hours ---
- More than 35 hours ---

26

How well prepared do you feel you are to teach the following mathematics topics?
If a topic is not in the <eighth grade> curriculum or you are not responsible for teaching this topic, please choose "Not applicable."

Check **one** circle for each line.

Not applicable
 Very well prepared
 Somewhat prepared
 Not well prepared

A. Number

- BTBM26AA a) Computing with whole numbers ----- ○ — ○ — ○ — ○
- BTBM26AB b) Comparing and ordering rational numbers ----- ○ — ○ — ○ — ○
- BTBM26AC c) Computing with rational numbers (fractions, decimals, and integers) ----- ○ — ○ — ○ — ○
- BTBM26AD d) Concepts of irrational numbers ----- ○ — ○ — ○ — ○
- BTBM26AE e) Problem solving involving percents or proportions ----- ○ — ○ — ○ — ○

B. Algebra

- BTBM26BA a) Simplifying and evaluating algebraic expressions ----- ○ — ○ — ○ — ○
- BTBM26BB b) Simple linear equations and inequalities ----- ○ — ○ — ○ — ○
- BTBM26BC c) Simultaneous (two variables) equations ----- ○ — ○ — ○ — ○
- BTBM26BD d) Numeric, algebraic, and geometric patterns or sequences (extension, missing terms, generalization of patterns) ----- ○ — ○ — ○ — ○
- BTBM26BE e) Representation of functions as ordered pairs, tables, graphs, words, or equations ----- ○ — ○ — ○ — ○
- BTBM26BF f) Properties of functions (slopes, intercepts, etc.) ----- ○ — ○ — ○ — ○

C. Geometry

- BTBM26CA a) Geometric properties of angles and geometric shapes (triangles, quadrilaterals, and other common polygons) ----- ○ — ○ — ○ — ○
- BTBM26CB b) Congruent figures and similar triangles ----- ○ — ○ — ○ — ○
- BTBM26CC c) Relationship between three-dimensional shapes and their two-dimensional representations ----- ○ — ○ — ○ — ○
- BTBM26CD d) Using appropriate measurement formulas for perimeters, circumferences, areas, surface areas, and volumes ----- ○ — ○ — ○ — ○
- BTBM26CE e) Points on the Cartesian plane ----- ○ — ○ — ○ — ○
- BTBM26CF f) Translation, reflection, and rotation ----- ○ — ○ — ○ — ○

D. Data and Chance

- BTBM26DA a) Characteristics of data sets (mean, median, mode, and shape of distributions) ----- ○ — ○ — ○ — ○
- BTBM26DB b) Interpreting data sets (e.g., draw conclusions, make predictions, and estimate values between and beyond given data points) ----- ○ — ○ — ○ — ○
- BTBM26DC c) Judging, predicting, and determining the chances of possible outcomes ----- ○ — ○ — ○ — ○

Thank You

Thank you for the thought, time, and effort you have put into completing this questionnaire.





BOSTON
COLLEGE

TIMSS
2015

TRENDS IN INTERNATIONAL MATHEMATICS AND SCIENCE STUDY

Teacher Questionnaire Mathematics

<Grade 8>



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International Association
for the Evaluation of
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TIMSS
2015

SECTION 8:
EIGHTH GRADE –
SCIENCE TEACHER
QUESTIONNAIRE

TIMSS 2015 USER GUIDE FOR THE
INTERNATIONAL DATABASE



IEA

TIMSS & PIRLS
International Study Center
Lynch School of Education, Boston College

Exhibit S1.8: Index of International Background Variables for the TIMSS 2015 Science Teacher Questionnaire - Eighth Grade

TIMSS 2015 Question Number	TIMSS 2015 Variable Name	TIMSS 2015 Variable Description (See questionnaire for full item text)	TIMSS 2011 Variable Name	Notes
TQG-01	BTBG01	By the end of this school year, how many years will you have been teaching altogether?	BTBG01	
TQG-02	BTBG02	Are you female or male?	BTBG02	
TQG-03	BTBG03	How old are you?	BTBG03	
TQG-04	BTBG04	What is the highest level of formal education you have completed?	BTBG04	Modified response options in 2015
TQG-05a	BTBG05A	During your <post-secondary> education, what was your major or main area(s) of study? Mathematics	BTBG05A	
TQG-05b	BTBG05B	During your <post-secondary> education, what was your major or main area(s) of study? Biology	BTBG05B	
TQG-05c	BTBG05C	During your <post-secondary> education, what was your major or main area(s) of study? Physics	BTBG05C	
TQG-05d	BTBG05D	During your <post-secondary> education, what was your major or main area(s) of study? Chemistry	BTBG05D	
TQG-05e	BTBG05E	During your <post-secondary> education, what was your major or main area(s) of study? <Earth Science>	BTBG05E	
TQG-05f	BTBG05F	During your <post-secondary> education, what was your major or main area(s) of study? Education–Mathematics	BTBG05F	
TQG-05g	BTBG05G	During your <post-secondary> education, what was your major or main area(s) of study? Education–Science	BTBG05G	
TQG-05h	BTBG05H	During your <post-secondary> education, what was your major or main area(s) of study? Education–General	BTBG05H	
TQG-05i	BTBG05I	During your <post-secondary> education, what was your major or main area(s) of study? Other	BTBG05I	
TQG-06a	BTBG06A	How would you characterize each of the following within your school? Teachers' understanding of the school's curricular goals	BTBG06B	
TQG-06b	BTBG06B	How would you characterize each of the following within your school? Teachers' degree of success in implementing the school's curriculum	BTBG06C	
TQG-06c	BTBG06C	How would you characterize each of the following within your school? Teachers' expectations for student achievement	BTBG06D	
TQG-06d	BTBG06D	How would you characterize each of the following within your school? Teachers working together to improve student achievement		
TQG-06e	BTBG06E	How would you characterize each of the following within your school? Teachers' ability to inspire students		
TQG-06f	BTBG06F	How would you characterize each of the following within your school? Parental involvement in school activities	BTBG06F	
TQG-06g	BTBG06G	How would you characterize each of the following within your school? Parental commitment to ensure that students are ready to learn		
TQG-06h	BTBG06H	How would you characterize each of the following within your school? Parental expectations for student achievement		
TQG-06i	BTBG06I	How would you characterize each of the following within your school? Parental support for student achievement	BTBG06E	
TQG-06j	BTBG06J	How would you characterize each of the following within your school? Parental pressure for the school to maintain high academic standards		
TQG-06k	BTBG06K	How would you characterize each of the following within your school? Students' desire to do well in school	BTBG06H	
TQG-06l	BTBG06L	How would you characterize each of the following within your school? Students' ability to reach school's academic goals		
TQG-06m	BTBG06M	How would you characterize each of the following within your school? Students' respect for classmates who excel in school		

Exhibit S1.8: Index of International Background Variables for the TIMSS 2015 Science Teacher Questionnaire - Eighth Grade (Continued)

TIMSS 2015 Question Number	TIMSS 2015 Variable Name	TIMSS 2015 Variable Description (See questionnaire for full item text)	TIMSS 2011 Variable Name	Notes
TQG-06n	BTBG06N	How would you characterize each of the following within your school? Clarity of the school's educational objectives		
TQG-06o	BTBG06O	How would you characterize each of the following within your school? Collaboration between school leadership and teachers to plan instruction		
TQG-06p	BTBG06P	How would you characterize each of the following within your school? Amount of instructional support provided to teachers by school leadership		
TQG-06q	BTBG06Q	How would you characterize each of the following within your school? School leadership's support for teachers' professional development		
TQG-07a	BTBG07A	Thinking about your current school, indicate the extent to which you agree or disagree with each of the following statements. This school is located in a safe neighborhood	BTBG07A	
TQG-07b	BTBG07B	Thinking about your current school, indicate the extent to which you agree or disagree with each of the following statements. I feel safe at this school	BTBG07B	
TQG-07c	BTBG07C	Thinking about your current school, indicate the extent to which you agree or disagree with each of the following statements. This school's security policies and practices are sufficient	BTBG07C	
TQG-07d	BTBG07D	Thinking about your current school, indicate the extent to which you agree or disagree with each of the following statements. The students behave in an orderly manner	BTBG07D	
TQG-07e	BTBG07E	Thinking about your current school, indicate the extent to which you agree or disagree with each of the following statements. The students are respectful of the teachers	BTBG07E	
TQG-07f	BTBG07F	Thinking about your current school, indicate the extent to which you agree or disagree with each of the following statements. The students respect school property		
TQG-07g	BTBG07G	Thinking about your current school, indicate the extent to which you agree or disagree with each of the following statements. This school has clear rules about student conduct		
TQG-07h	BTBG07H	Thinking about your current school, indicate the extent to which you agree or disagree with each of the following statements. This school's rules are enforced in a fair and consistent manner		
TQG-08a	BTBG08A	In your current school, how severe is each problem? The school building needs significant repair	BTBG08A	
TQG-08b	BTBG08B	In your current school, how severe is each problem? Teachers do not have adequate workspace (e.g., for preparation, collaboration, or meeting with students)	BTBG08D	Modified wording in 2015
TQG-08c	BTBG08C	In your current school, how severe is each problem? Teachers do not have adequate instructional materials and supplies	BTBG08E	
TQG-08d	BTBG08D	In your current school, how severe is each problem? The school classrooms are not cleaned often enough		
TQG-08e	BTBG08E	In your current school, how severe is each problem? The school classrooms need maintenance work		
TQG-08f	BTBG08F	In your current school, how severe is each problem? Teachers do not have adequate technological resources		
TQG-08g	BTBG08G	In your current school, how severe is each problem? Teachers do not have adequate support for using technology		
TQG-09a	BTBG09A	How often do you have the following types of interactions with other teachers? Discuss how to teach a particular topic		
TQG-09b	BTBG09B	How often do you have the following types of interactions with other teachers? Collaborate in planning and preparing instructional materials		
TQG-09c	BTBG09C	How often do you have the following types of interactions with other teachers? Share what I have learned about my teaching experiences		

Exhibit S1.8: Index of International Background Variables for the TIMSS 2015 Science Teacher Questionnaire - Eighth Grade (Continued)

TIMSS 2015 Question Number	TIMSS 2015 Variable Name	TIMSS 2015 Variable Description (See questionnaire for full item text)	TIMSS 2011 Variable Name	Notes
TQG-09d	BTBG09D	How often do you have the following types of interactions with other teachers? Visit another classroom to learn more about teaching		
TQG-09e	BTBG09E	How often do you have the following types of interactions with other teachers? Work together to try out new ideas		
TQG-09f	BTBG09F	How often do you have the following types of interactions with other teachers? Work as a group on implementing the curriculum		
TQG-09g	BTBG09G	How often do you have the following types of interactions with other teachers? Work with teachers from other grades to ensure continuity in learning		
TQG-10a	BTBG10A	How often do you feel the following way about being a teacher? I am content with my profession as a teacher		
TQG-10b	BTBG10B	How often do you feel the following way about being a teacher? I am satisfied with being a teacher at this school		
TQG-10c	BTBG10C	How often do you feel the following way about being a teacher? I find my work full of meaning and purpose		
TQG-10d	BTBG10D	How often do you feel the following way about being a teacher? I am enthusiastic about my job		
TQG-10e	BTBG10E	How often do you feel the following way about being a teacher? My work inspires me		
TQG-10f	BTBG10F	How often do you feel the following way about being a teacher? I am proud of the work I do		
TQG-10g	BTBG10G	How often do you feel the following way about being a teacher? I am going to continue teaching for as long as I can		
TQG-11a	BTBG11A	Indicate the extent to which you agree or disagree with each of the following statements. There are too many students in the classes		
TQG-11b	BTBG11B	Indicate the extent to which you agree or disagree with each of the following statements. I have too much material to cover in class		
TQG-11c	BTBG11C	Indicate the extent to which you agree or disagree with each of the following statements. I have too many teaching hours		
TQG-11d	BTBG11D	Indicate the extent to which you agree or disagree with each of the following statements. I need more time to prepare for class		
TQG-11e	BTBG11E	Indicate the extent to which you agree or disagree with each of the following statements. I need more time to assist individual students		
TQG-11f	BTBG11F	Indicate the extent to which you agree or disagree with each of the following statements. I feel too much pressure from parents		
TQG-11g	BTBG11G	Indicate the extent to which you agree or disagree with each of the following statements. I have difficulty keeping up with all of the changes to the curriculum		
TQG-11h	BTBG11H	Indicate the extent to which you agree or disagree with each of the following statements. I have too many administrative tasks		
TQG-12	BTBG12	How many students are in this class?	BTBG12	
TQG-13	BTBG13	How many <eighth grade> students experience difficulties understanding spoken <language of test>?	BTBG13	
TQG-14a	BTBG14A	How often do you do the following in teaching this class? Relate the lesson to students' daily lives	BTBG14B	
TQG-14b	BTBG14B	How often do you do the following in teaching this class? Ask students to explain their answers		
TQG-14c	BTBG14C	How often do you do the following in teaching this class? Ask students to complete challenging exercises that require them to go beyond the instruction		
TQG-14d	BTBG14D	How often do you do the following in teaching this class? Encourage classroom discussions among students		
TQG-14e	BTBG14E	How often do you do the following in teaching this class? Link new content to students' prior knowledge		

**Exhibit S1.8: Index of International Background Variables for the TIMSS 2015 Science Teacher Questionnaire
- Eighth Grade (Continued)**

TIMSS 2015 Question Number	TIMSS 2015 Variable Name	TIMSS 2015 Variable Description (See questionnaire for full item text)	TIMSS 2011 Variable Name	Notes
TQG-14f	BTBG14F	How often do you do the following in teaching this class? Ask students to decide their own problem solving procedures		
TQG-14g	BTBG14G	How often do you do the following in teaching this class? Encourage students to express their ideas in class		
TQG-15a	BTBG15A	In your view, to what extent do the following limit how you teach this class? Students lacking prerequisite knowledge or skills	BTBG15A	Modified response options in 2015
TQG-15b	BTBG15B	In your view, to what extent do the following limit how you teach this class? Students suffering from lack of basic nutrition	BTBG15B	Modified response options in 2015
TQG-15c	BTBG15C	In your view, to what extent do the following limit how you teach this class? Students suffering from not enough sleep	BTBG15C	Modified response options in 2015
TQG-15d	BTBG15D	In your view, to what extent do the following limit how you teach this class? Disruptive students	BTBG15E	Modified response options in 2015
TQG-15e	BTBG15E	In your view, to what extent do the following limit how you teach this class? Uninterested students	BTBG15F	Modified response options in 2015
TQG-15f	BTBG15F	In your view, to what extent do the following limit how you teach this class? Students with physical disabilities	BTBG15D	Modified wording and response options in 2015
TQG-15g	BTBG15G	In your view, to what extent do the following limit how you teach this class? Students with mental, emotional, or psychological disabilities	BTBG15D	Modified wording and response options in 2015
TQS-16	BTBS16	In a typical week, how much time do you spend teaching science to the students in this class? (minutes)	BTBS17A BTBS17B	Hours and minutes separate variables in 2011
TQS-17a	BTBS17A	In teaching science to this class, how would you characterize your confidence in doing the following? Inspiring students to learn science		
TQS-17b	BTBS17B	In teaching science to this class, how would you characterize your confidence in doing the following? Explaining science concepts or principles by doing science experiments		
TQS-17c	BTBS17C	In teaching science to this class, how would you characterize your confidence in doing the following? Providing challenging tasks for the highest achieving students		
TQS-17d	BTBS17D	In teaching science to this class, how would you characterize your confidence in doing the following? Adapting my teaching to engage students' interest		
TQS-17e	BTBS17E	In teaching science to this class, how would you characterize your confidence in doing the following? Helping students appreciate the value of learning science		
TQS-17f	BTBS17F	In teaching science to this class, how would you characterize your confidence in doing the following? Assessing student comprehension of science		
TQS-17g	BTBS17G	In teaching science to this class, how would you characterize your confidence in doing the following? Improving the understanding of struggling students		
TQS-17h	BTBS17H	In teaching science to this class, how would you characterize your confidence in doing the following? Making science relevant to students		
TQS-17i	BTBS17I	In teaching science to this class, how would you characterize your confidence in doing the following? Developing students' higher-order thinking skills		
TQS-17j	BTBS17J	In teaching science to this class, how would you characterize your confidence in doing the following? Teaching science using inquiry methods		
TQS-18a	BTBS18A	In teaching science to the students in this class, how often do you ask them to do the following? Listen to me explain new science content		

Exhibit S1.8: Index of International Background Variables for the TIMSS 2015 Science Teacher Questionnaire - Eighth Grade (Continued)

TIMSS 2015 Question Number	TIMSS 2015 Variable Name	TIMSS 2015 Variable Description (See questionnaire for full item text)	TIMSS 2011 Variable Name	Notes
TQS-18b	BTBS18B	In teaching science to the students in this class, how often do you ask them to do the following? Observe natural phenomena and describe what they see	BTBS19A	Modified wording in 2015
TQS-18c	BTBS18C	In teaching science to the students in this class, how often do you ask them to do the following? Watch me demonstrate an experiment or investigation	BTBS19B	Modified wording in 2015
TQS-18d	BTBS18D	In teaching science to the students in this class, how often do you ask them to do the following? Design or plan experiments or investigations	BTBS19C	Modified wording in 2015
TQS-18e	BTBS18E	In teaching science to the students in this class, how often do you ask them to do the following? Conduct experiments or investigations	BTBS19D	Modified wording in 2015
TQS-18f	BTBS18F	In teaching science to the students in this class, how often do you ask them to do the following? Present data from experiments or investigations		
TQS-18g	BTBS18G	In teaching science to the students in this class, how often do you ask them to do the following? Interpret data from experiments or investigations		
TQS-18h	BTBS18H	In teaching science to the students in this class, how often do you ask them to do the following? Use evidence from experiments or investigations to support conclusions		
TQS-18i	BTBS18I	In teaching science to the students in this class, how often do you ask them to do the following? Read their textbooks or other resource materials	BTBS19E	Modified wording in 2015
TQS-18j	BTBS18J	In teaching science to the students in this class, how often do you ask them to do the following? Have students memorize facts and principles	BTBS19F	Modified wording in 2015
TQS-18k	BTBS18K	In teaching science to the students in this class, how often do you ask them to do the following? Use scientific formulas and laws to solve routine problems	BTBS19G	Modified wording in 2015
TQS-18l	BTBS18L	In teaching science to the students in this class, how often do you ask them to do the following? Do field work outside of class	BTBS19J	Modified wording in 2015
TQS-18m	BTBS18M	In teaching science to the students in this class, how often do you ask them to do the following? Take a written test or quiz	BTBS19K	Modified wording in 2015
TQS-18n	BTBS18N	In teaching science to the students in this class, how often do you ask them to do the following? Work in mixed ability groups		
TQS-18o	BTBS18O	In teaching science to the students in this class, how often do you ask them to do the following? Work in same ability groups		
TQS-19A	BTBS19A	Do the students in this class have computers (including tablets) available to use during their science lessons?	BTBS21A	Modified wording in 2015
TQS-19Ba	BTBS19BA	What access do the students have to computers? Each student has a computer		
TQS-19Bb	BTBS19BB	What access do the students have to computers? The class has computers that students can share		
TQS-19Bc	BTBS19BC	What access do the students have to computers? The school has computers that the class can use sometimes		
TQS-19Ca	BTBS19CA	How often do you have the students do the following activities on computers during science lessons? Practice skills and procedures	BTBS21CA	Modified wording in 2015
TQS-19Cb	BTBS19CB	How often do you have the students do the following activities on computers during science lessons? Look up ideas and information	BTBS21CB	Modified wording in 2015
TQS-19Cc	BTBS19CC	How often do you have the students do the following activities on computers during science lessons? Do scientific procedures or experiments	BTBS21CC	Modified wording in 2015
TQS-19Cd	BTBS19CD	How often do you have the students do the following activities on computers during science lessons? Study natural phenomena through simulations	BTBS21CD	Modified wording in 2015
TQS-19Ce	BTBS19CE	How often do you have the students do the following activities on computers during science lessons? Process and analyze data	BTBS21CE	Modified wording in 2015
TQS-20Aa	BTBS20AA	When students in this class have been taught each of the following science topics. Biology: Differences among major taxonomic groups of organisms	See Question TQS-22 in 2011 for sub-topics.	

**Exhibit S1.8: Index of International Background Variables for the TIMSS 2015 Science Teacher Questionnaire
- Eighth Grade (Continued)**

TIMSS 2015 Question Number	TIMSS 2015 Variable Name	TIMSS 2015 Variable Description (See questionnaire for full item text)	TIMSS 2011 Variable Name	Notes
TQS-20Ab	BTBS20AB	When students in this class have been taught each of the following science topics. Biology: Major organs and organ systems in humans and other organisms	See Question TQS-22 in 2011 for sub-topics.	
TQS-20Ac	BTBS20AC	When students in this class have been taught each of the following science topics. Biology: Cells, their structure and functions, including respiration and photosynthesis as cellular processes	See Question TQS-22 in 2011 for sub-topics.	
TQS-20Ad	BTBS20AD	When students in this class have been taught each of the following science topics. Biology: Life cycles, sexual reproduction, and heredity	See Question TQS-22 in 2011 for sub-topics.	
TQS-20Ae	BTBS20AE	When students in this class have been taught each of the following science topics. Biology: Role of variation and adaptation in survival/extinction of species in a changing environment	See Question TQS-22 in 2011 for sub-topics.	
TQS-20Af	BTBS20AF	When students in this class have been taught each of the following science topics. Biology: Interdependence of populations of organisms in an ecosystem and factors affecting population size	See Question TQS-22 in 2011 for sub-topics.	
TQS-20Ag	BTBS20AG	When students in this class have been taught each of the following science topics. Biology: Human health and the importance of diet and exercise in maintaining health	See Question TQS-22 in 2011 for sub-topics.	
TQS-20Ba	BTBS20BA	When students in this class have been taught each of the following science topics. Chemistry: Classification, composition, and particulate structure of matter	See Question TQS-22 in 2011 for sub-topics.	
TQS-20Bb	BTBS20BB	When students in this class have been taught each of the following science topics. Chemistry: Physical and chemical properties of matter	See Question TQS-22 in 2011 for sub-topics.	
TQS-20Bc	BTBS20BC	When students in this class have been taught each of the following science topics. Chemistry: Mixtures and solutions	See Question TQS-22 in 2011 for sub-topics.	
TQS-20Bd	BTBS20BD	When students in this class have been taught each of the following science topics. Chemistry: Properties and uses of common acids and bases	See Question TQS-22 in 2011 for sub-topics.	
TQS-20Be	BTBS20BE	When students in this class have been taught each of the following science topics. Chemistry: Chemical change	See Question TQS-22 in 2011 for sub-topics.	
TQS-20Bf	BTBS20BF	When students in this class have been taught each of the following science topics. Chemistry: The role of electrons in chemical bonds	See Question TQS-22 in 2011 for sub-topics.	
TQS-20Ca	BTBS20CA	When students in this class have been taught each of the following science topics. Physics: Physical states and changes in matter	See Question TQS-22 in 2011 for sub-topics.	

Exhibit S1.8: Index of International Background Variables for the TIMSS 2015 Science Teacher Questionnaire - Eighth Grade (Continued)

TIMSS 2015 Question Number	TIMSS 2015 Variable Name	TIMSS 2015 Variable Description (See questionnaire for full item text)	TIMSS 2011 Variable Name	Notes
TQS-20Cb	BTBS20CB	When students in this class have been taught each of the following science topics. Physics: Energy forms, transformations, heat, and temperature	See Question TQS-22 in 2011 for sub-topics.	
TQS-20Cc	BTBS20CC	When students in this class have been taught each of the following science topics. Physics: Basic properties/behaviors of light and sound	See Question TQS-22 in 2011 for sub-topics.	
TQS-20Cd	BTBS20CD	When students in this class have been taught each of the following science topics. Physics: Electric circuits and properties and uses of permanent magnets and electromagnets	See Question TQS-22 in 2011 for sub-topics.	
TQS-20Ce	BTBS20CE	When students in this class have been taught each of the following science topics. Physics: Forces and motion	See Question TQS-22 in 2011 for sub-topics.	
TQS-20Da	BTBS20DA	When students in this class have been taught each of the following science topics. Earth Science: Earth's structure and physical features	See Question TQS-22 in 2011 for sub-topics.	
TQS-20Db	BTBS20DB	When students in this class have been taught each of the following science topics. Earth Science: Earth's processes, cycles, and history	See Question TQS-22 in 2011 for sub-topics.	
TQS-20Dc	BTBS20DC	When students in this class have been taught each of the following science topics. Earth Science: Earth's resources, their use and conservation	See Question TQS-22 in 2011 for sub-topics.	
TQS-20Dd	BTBS20DD	When students in this class have been taught each of the following science topics. Earth Science: Earth in the solar system and the universe	See Question TQS-22 in 2011 for sub-topics.	
TQS-21A	BTBS21A	How often do you usually assign science homework to the students in this class?	BTBS24A	
TQS-21B	BTBS21B	When you assign science homework to the students in this class, about how many minutes do you usually assign? (Consider the time it would take an average student in your class.)	BTBS24B	
TQS-21Ca	BTBS21CA	How often do you do the following with the science homework assignments for this class? Correct assignments and give feedback to students	BTBS24CA	
TQS-21Cb	BTBS21CB	How often do you do the following with the science homework assignments for this class? Have students correct their own homework	BTBS24CB	
TQS-21Cc	BTBS21CC	How often do you do the following with the science homework assignments for this class? Discuss the homework in class	BTBS24CC	
TQS-21Cd	BTBS21CD	How often do you do the following with the science homework assignments for this class? Monitor whether or not the homework was completed	BTBS24CD	
TQS-21Ce	BTBS21CE	How often do you do the following with the science homework assignments for this class? Use the homework to contribute towards students' grades or marks	BTBS24CE	
TQS-22a	BTBS22A	How much emphasis do you place on the following sources to monitor students' progress in science? Assessment of students' ongoing work	BTBS25A	Modified wording in 2015
TQS-22b	BTBS22B	How much emphasis do you place on the following sources to monitor students' progress in science? Classroom tests	BTBS25B	
TQS-22c	BTBS22C	How much emphasis do you place on the following sources to monitor students' progress in science? National or regional achievement tests	BTBS25C	

**Exhibit S1.8: Index of International Background Variables for the TIMSS 2015 Science Teacher Questionnaire
- Eighth Grade (Continued)**

TIMSS 2015 Question Number	TIMSS 2015 Variable Name	TIMSS 2015 Variable Description (See questionnaire for full item text)	TIMSS 2011 Variable Name	Notes
TQS-23a	BTBS23A	In the past two years, have you participated in professional development in any of the following? Science content	BTBS28A	
TQS-23b	BTBS23B	In the past two years, have you participated in professional development in any of the following? Science pedagogy/instruction	BTBS28B	
TQS-23c	BTBS23C	In the past two years, have you participated in professional development in any of the following? Science curriculum	BTBS28C	
TQS-23d	BTBS23D	In the past two years, have you participated in professional development in any of the following? Integrating information technology into science	BTBS28D	
TQS-23e	BTBS23E	In the past two years, have you participated in professional development in any of the following? Improving students' critical thinking or inquiry skills	BTBS28E	
TQS-23f	BTBS23F	In the past two years, have you participated in professional development in any of the following? Science assessment	BTBS28F	
TQS-23g	BTBS23G	In the past two years, have you participated in professional development in any of the following? Addressing individual students' needs	BTBS28G	
TQS-24	BTBS24	In the past two years, how many hours in total have you spent in formal <in-service/professional development> for science?		
TQS-25Aa	BTBS25AA	How well prepared do you feel you are to teach the following science topics? Biology: Differences among major taxonomic groups of organisms	See Question TQS-29 in 2011 for sub-topics.	
TQS-25Ab	BTBS25AB	How well prepared do you feel you are to teach the following science topics? Biology: Major organs and organ systems in humans and other organisms	See Question TQS-29 in 2011 for sub-topics.	
TQS-25Ac	BTBS25AC	How well prepared do you feel you are to teach the following science topics? Biology: Cells, their structure and functions, including respiration and photosynthesis as cellular processes	See Question TQS-29 in 2011 for sub-topics.	
TQS-25Ad	BTBS25AD	How well prepared do you feel you are to teach the following science topics? Biology: Life cycles, sexual reproduction, and heredity	See Question TQS-29 in 2011 for sub-topics.	
TQS-25Ae	BTBS25AE	How well prepared do you feel you are to teach the following science topics? Biology: Role of variation and adaptation in survival/extinction of species in a changing environment	See Question TQS-29 in 2011 for sub-topics.	
TQS-25Af	BTBS25AF	How well prepared do you feel you are to teach the following science topics? Biology: Interdependence of populations of organisms in an ecosystem and factors affecting population size in an ecosystem	See Question TQS-29 in 2011 for sub-topics.	
TQS-25Ag	BTBS25AG	How well prepared do you feel you are to teach the following science topics? Biology: Human health and the importance of diet and exercise in maintaining health	See Question TQS-29 in 2011 for sub-topics.	
TQS-25Ba	BTBS25BA	How well prepared do you feel you are to teach the following science topics? Chemistry: Classification, composition, and particulate structure of matter	See Question TQS-29 in 2011 for sub-topics.	
TQS-25Bb	BTBS25BB	How well prepared do you feel you are to teach the following science topics? Chemistry: Physical and chemical properties of matter	See Question TQS-29 in 2011 for sub-topics.	

**Exhibit S1.8: Index of International Background Variables for the TIMSS 2015 Science Teacher Questionnaire
- Eighth Grade (Continued)**

TIMSS 2015 Question Number	TIMSS 2015 Variable Name	TIMSS 2015 Variable Description (See questionnaire for full item text)	TIMSS 2011 Variable Name	Notes
TQS-25Bc	BTBS25BC	How well prepared do you feel you are to teach the following science topics? Chemistry: Mixtures and solutions	See Question TQS-29 in 2011 for sub-topics.	
TQS-25Bd	BTBS25BD	How well prepared do you feel you are to teach the following science topics? Chemistry: Properties and uses of common acids and bases	See Question TQS-29 in 2011 for sub-topics.	
TQS-25Be	BTBS25BE	How well prepared do you feel you are to teach the following science topics? Chemistry: Chemical change	See Question TQS-29 in 2011 for sub-topics.	
TQS-25Bf	BTBS25BF	How well prepared do you feel you are to teach the following science topics? Chemistry: The role of electrons in chemical bonds	See Question TQS-29 in 2011 for sub-topics.	
TQS-25Ca	BTBS25CA	How well prepared do you feel you are to teach the following science topics? Physics: Physical states and changes in matter	See Question TQS-29 in 2011 for sub-topics.	
TQS-25Cb	BTBS25CB	How well prepared do you feel you are to teach the following science topics? Physics: Energy forms, transformations, heat, and temperature	See Question TQS-29 in 2011 for sub-topics.	
TQS-25Cc	BTBS25CC	How well prepared do you feel you are to teach the following science topics? Physics: Basic properties/behaviors of light and sound	See Question TQS-29 in 2011 for sub-topics.	
TQS-25Cd	BTBS25CD	How well prepared do you feel you are to teach the following science topics? Physics: Electric circuits and properties and uses of permanent magnets and electromagnets	See Question TQS-29 in 2011 for sub-topics.	
TQS-25Ce	BTBS25CE	How well prepared do you feel you are to teach the following science topics? Physics: Forces and motion	See Question TQS-29 in 2011 for sub-topics.	
TQS-25Da	BTBS25DA	How well prepared do you feel you are to teach the following science topics? Earth Science: Earth's structure and physical features	See Question TQS-29 in 2011 for sub-topics.	
TQS-25Db	BTBS25DB	How well prepared do you feel you are to teach the following science topics? Earth Science: Earth's processes, cycles, and history	See Question TQS-29 in 2011 for sub-topics.	
TQS-25Dc	BTBS25DC	How well prepared do you feel you are to teach the following science topics? Earth Science: Earth's resources, their use and conservation	See Question TQS-29 in 2011 for sub-topics.	
TQS-25Dd	BTBS25DD	How well prepared do you feel you are to teach the following science topics? Earth Science: Earth in the solar system and the universe	See Question TQS-29 in 2011 for sub-topics.	



Identification Label

TRENDS IN INTERNATIONAL MATHEMATICS AND SCIENCE STUDY

Teacher Questionnaire Science

<Grade 8>

<TIMSS National Research Center Name>

<Address>



TIMSS & PIRLS
International Study Center
Lynch School of Education, Boston College

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Teacher Questionnaire

Your school has agreed to participate in TIMSS 2015 (Trends in International Mathematics and Science Study), an educational research project sponsored by the International Association for the Evaluation of Educational Achievement (IEA). TIMSS measures trends in student achievement in mathematics and science and studies differences in national education systems in almost 60 countries in order to help improve teaching and learning worldwide.

This questionnaire is addressed to teachers of <eighth grade> students, and seeks information about teachers' academic and professional backgrounds, classroom resources, instructional practices, and attitudes toward teaching. Since your class has been selected as part of a nationwide sample, your responses are very important in helping to describe secondary education in <country>.

Some of the questions in the questionnaire refer to the **"TIMSS class"** or **"this class"**. This is the class that is identified on the front of this booklet, and which will be tested as part of TIMSS in your school. If you teach some but not all of the students in the TIMSS class, please think only of the students that you teach when answering these class-specific questions. It is important that you answer each question carefully so that the information that you provide reflects your situation as accurately as possible.

Since TIMSS is an international study and all countries are using the same questionnaire, you may find that some of the questions seem unusual or are not entirely relevant to you or schools in <country>. Nevertheless, it is important that you do your best to answer all of the questions so comparisons can be made across countries in the studies.

It is estimated that you will need approximately 35 minutes to complete this questionnaire. We appreciate the time and effort that this takes and thank you for your cooperation and contribution.

When you have completed the questionnaire, please place it in the accompanying envelope and return it to:

<Insert country-specific information here>.

Thank you.

TIMSS 2015

About You

1 _____
BTBG01 **By the end of this school year, how many years will you have been teaching altogether?**

_____ years
Please **round** to the nearest whole number.

2 _____
BTBG02 **Are you female or male?**

Check **one** circle only.
Female ---
Male ---

3 _____
BTBG03 **How old are you?**

Check **one** circle only.
Under 25 ---
25–29 ---
30–39 ---
40–49 ---
50–59 ---
60 or more ---

4 _____
BTBG04 **What is the highest level of formal education you have completed?**

Check **one** circle only.
Did not complete <Upper secondary education—ISCED Level 3> ---
<Upper secondary education—ISCED Level 3> --- →
(If you have not completed <post-secondary or tertiary education>, go to #6)
<Post-secondary, non-tertiary education—ISCED Level 4> ---
<Short-cycle tertiary education—ISCED Level 5> ---
<Bachelor's or equivalent level—ISCED Level 6> ---
<Master's or equivalent level—ISCED Level 7> ---
<Doctor or equivalent level—ISCED Level 8> ---

5 _____
BTBG05 **During your <post-secondary> education, what was your major or main area(s) of study?**

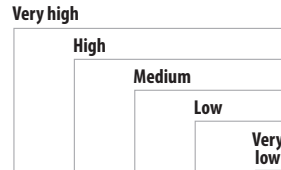
Check **one** circle for each line.
Yes No
a) Mathematics ----- BTBG05A
b) Biology ----- BTBG05B
c) Physics ----- BTBG05C
d) Chemistry ----- BTBG05D
e) <Earth Science> ----- BTBG05E
f) Education–Mathematics ----- BTBG05F
g) Education–Science ----- BTBG05G
h) Education–General ----- BTBG05H
i) Other ----- BTBG05I

School Emphasis on Academic Success

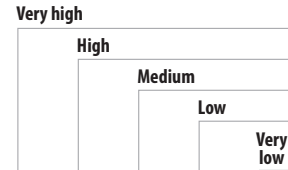
6

How would you characterize each of the following within your school?

Check **one** circle for each line.



Check **one** circle for each line.



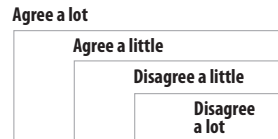
- | | | | | | |
|---------|---|---|--|---|---------|
| BTBG06A | a) Teachers' understanding of the school's curricular goals | <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> | k) Students' desire to do well in school | <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> | BTBG06K |
| BTBG06B | b) Teachers' degree of success in implementing the school's curriculum | <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> | l) Students' ability to reach school's academic goals | <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> | BTBG06L |
| BTBG06C | c) Teachers' expectations for student achievement | <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> | m) Students' respect for classmates who excel in school | <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> | BTBG06M |
| BTBG06D | d) Teachers working together to improve student achievement | <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> | n) Clarity of the school's educational objectives | <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> | BTBG06N |
| BTBG06E | e) Teachers' ability to inspire students | <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> | o) Collaboration between school leadership and teachers to plan instruction | <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> | BTBG06O |
| BTBG06F | f) Parental involvement in school activities | <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> | p) Amount of instructional support provided to teachers by school leadership | <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> | BTBG06P |
| BTBG06G | g) Parental commitment to ensure that students are ready to learn | <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> | q) School leadership's support for teachers' professional development | <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> | BTBG06Q |
| BTBG06H | h) Parental expectations for student achievement | <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> | | | |
| BTBG06I | i) Parental support for student achievement | <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> | | | |
| BTBG06J | j) Parental pressure for the school to maintain high academic standards | <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> | | | |

School Environment

7

Thinking about your current school, indicate the extent to which you agree or disagree with each of the following statements.

Check **one** circle for each line.

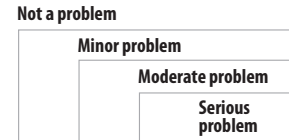


- BTBG07A a) This school is located in a safe neighborhood ----- ○ — ○ — ○ — ○
- BTBG07B b) I feel safe at this school ----- ○ — ○ — ○ — ○
- BTBG07C c) This school's security policies and practices are sufficient ----- ○ — ○ — ○ — ○
- BTBG07D d) The students behave in an orderly manner ----- ○ — ○ — ○ — ○
- BTBG07E e) The students are respectful of the teachers ----- ○ — ○ — ○ — ○
- BTBG07F f) The students respect school property ----- ○ — ○ — ○ — ○
- BTBG07G g) This school has clear rules about student conduct ----- ○ — ○ — ○ — ○
- BTBG07H h) This school's rules are enforced in a fair and consistent manner ----- ○ — ○ — ○ — ○

8

In your current school, how severe is each problem?

Check **one** circle for each line.

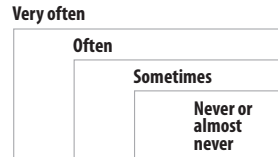


- a) The school building needs significant repair ----- ○ — ○ — ○ — ○ BTBG08A
- b) Teachers do not have adequate workspace (e.g., for preparation, collaboration, or meeting with students) ----- ○ — ○ — ○ — ○ BTBG08B
- c) Teachers do not have adequate instructional materials and supplies ----- ○ — ○ — ○ — ○ BTBG08C
- d) The school classrooms are not cleaned often enough ----- ○ — ○ — ○ — ○ BTBG08D
- e) The school classrooms need maintenance work ----- ○ — ○ — ○ — ○ BTBG08E
- f) Teachers do not have adequate technological resources ----- ○ — ○ — ○ — ○ BTBG08F
- g) Teachers do not have adequate support for using technology ----- ○ — ○ — ○ — ○ BTBG08G

About Being a Teacher

9 **How often do you have the following types of interactions with other teachers?**

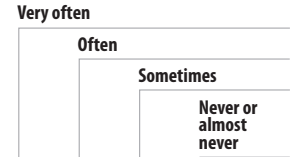
Check **one** circle for each line.



- BTBG09A a) Discuss how to teach a particular topic ----- ○ — ○ — ○ — ○
- BTBG09B b) Collaborate in planning and preparing instructional materials ----- ○ — ○ — ○ — ○
- BTBG09C c) Share what I have learned about my teaching experiences ----- ○ — ○ — ○ — ○
- BTBG09D d) Visit another classroom to learn more about teaching ----- ○ — ○ — ○ — ○
- BTBG09E e) Work together to try out new ideas ----- ○ — ○ — ○ — ○
- BTBG09F f) Work as a group on implementing the curriculum ----- ○ — ○ — ○ — ○
- BTBG09G g) Work with teachers from other grades to ensure continuity in learning ----- ○ — ○ — ○ — ○

10 **How often do you feel the following way about being a teacher?**

Check **one** circle for each line.

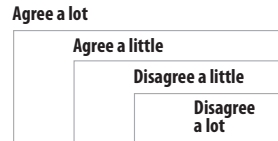


- BTBG10A a) I am content with my profession as a teacher ----- ○ — ○ — ○ — ○
- BTBG10B b) I am satisfied with being a teacher at this school ----- ○ — ○ — ○ — ○
- BTBG10C c) I find my work full of meaning and purpose ----- ○ — ○ — ○ — ○
- BTBG10D d) I am enthusiastic about my job ----- ○ — ○ — ○ — ○
- BTBG10E e) My work inspires me ----- ○ — ○ — ○ — ○
- BTBG10F f) I am proud of the work I do ----- ○ — ○ — ○ — ○
- BTBG10G g) I am going to continue teaching for as long as I can --- ○ — ○ — ○ — ○

**About Teaching the <TIMSS Class/
Class with the TIMSS students>**

11 **Indicate the extent to which you agree or disagree with each of the following statements.**

Check **one** circle for each line.



- BTBG11A a) There are too many students in the classes ----- — — —
- BTBG11B b) I have too much material to cover in class ----- — — —
- BTBG11C c) I have too many teaching hours ----- — — —
- BTBG11D d) I need more time to prepare for class ----- — — —
- BTBG11E e) I need more time to assist individual students ----- — — —
- BTBG11F f) I feel too much pressure from parents ----- — — —
- BTBG11G g) I have difficulty keeping up with all of the changes to the curriculum ----- — — —
- BTBG11H h) I have too many administrative tasks ----- — — —

12 **How many students are in this class?**

BTBG12

_____ students
Write in the number.

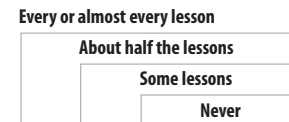
13 **How many <eighth grade> students experience difficulties understanding spoken <language of test>?**

BTBG13

_____ students in this class
Write in the number.

14 **How often do you do the following in teaching this class?**

Check **one** circle for each line.



- a) Relate the lesson to students' daily lives ----- — — — BTBG14A
- b) Ask students to explain their answers ----- — — — BTBG14B
- c) Ask students to complete challenging exercises that require them to go beyond the instruction ----- — — — BTBG14C
- d) Encourage classroom discussions among students ----- — — — BTBG14D
- e) Link new content to students' prior knowledge ---- — — — BTBG14E
- f) Ask students to decide their own problem solving procedures ----- — — — BTBG14F
- g) Encourage students to express their ideas in class ---- — — — BTBG14G

**Teaching Science to the <TIMSS
Class/Class with the TIMSS students>**

15 **In your view, to what extent do the following limit how you teach this class?**

Check **one** circle for each line.



- BTBG15A a) Students lacking prerequisite knowledge or skills ----- ○ — ○ — ○
- BTBG15B b) Students suffering from lack of basic nutrition ----- ○ — ○ — ○
- BTBG15C c) Students suffering from not enough sleep ----- ○ — ○ — ○
- BTBG15D d) Disruptive students ----- ○ — ○ — ○
- BTBG15E e) Uninterested students ----- ○ — ○ — ○
- BTBG15F f) Students with physical disabilities ----- ○ — ○ — ○
- BTBG15G g) Students with mental, emotional, or psychological disabilities ----- ○ — ○ — ○

16 **In a typical week, how much time do you spend teaching science to the students in this class?**

BTBS16

_____ minutes per week
Write in the number of minutes per week.
Please convert the number of hours into minutes.

17 **In teaching science to this class, how would you characterize your confidence in doing the following?**

Check **one** circle for each line.



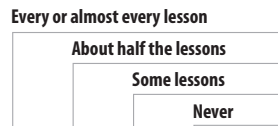
- a) Inspiring students to learn science ----- ○ — ○ — ○ — ○ BTBS17A
- b) Explaining science concepts or principles by doing science experiments ----- ○ — ○ — ○ — ○ BTBS17B
- c) Providing challenging tasks for the highest achieving students ----- ○ — ○ — ○ — ○ BTBS17C
- d) Adapting my teaching to engage students' interest ----- ○ — ○ — ○ — ○ BTBS17D
- e) Helping students appreciate the value of learning science -- ○ — ○ — ○ — ○ BTBS17E
- f) Assessing student comprehension of science ----- ○ — ○ — ○ — ○ BTBS17F
- g) Improving the understanding of struggling students ----- ○ — ○ — ○ — ○ BTBS17G
- h) Making science relevant to students ----- ○ — ○ — ○ — ○ BTBS17H
- i) Developing students' higher-order thinking skills ----- ○ — ○ — ○ — ○ BTBS17I
- j) Teaching science using inquiry methods ----- ○ — ○ — ○ — ○ BTBS17J

Using Computers for Teaching Science to the <TIMSS Class/ Class with the TIMSS students>

18

In teaching science to the students in this class, how often do you ask them to do the following?

Check **one** circle for each line.



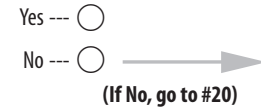
- BTBS18A a) Listen to me explain new science content ----- - - -
- BTBS18B b) Observe natural phenomena and describe what they see --- - - -
- BTBS18C c) Watch me demonstrate an experiment or investigation ----- - - -
- BTBS18D d) Design or plan experiments or investigations ----- - - -
- BTBS18E e) Conduct experiments or investigations ----- - - -
- BTBS18F f) Present data from experiments or investigations ----- - - -
- BTBS18G g) Interpret data from experiments or investigations ----- - - -
- BTBS18H h) Use evidence from experiments or investigations to support conclusions ----- - - -
- BTBS18I i) Read their textbooks or other resource materials ----- - - -
- BTBS18J j) Have students memorize facts and principles ----- - - -
- BTBS18K k) Use scientific formulas and laws to solve routine problems ----- - - -
- BTBS18L l) Do field work outside of class-- - - -
- BTBS18M m) Take a written test or quiz ----- - - -
- BTBS18N n) Work in mixed ability groups -- - - -
- BTBS18O o) Work in same ability groups --- - - -

19

A. Do the students in this class have computers (including tablets) available to use during their science lessons?

BTBS19A

Check **one** circle only.



If Yes,

B. What access do the students have to computers?

Check **one** circle for each line.



- a) Each student has a computer ----- -
- b) The class has computers that students can share ----- -
- c) The school has computers that the class can use sometimes ----- -

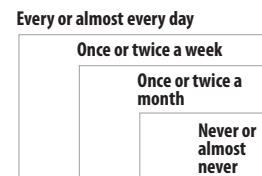
BTBS19BA

BTBS19BB

BTBS19BC

C. How often do you have the students do the following activities on computers during science lessons?

Check **one** circle for each line.



- a) Practice skills and procedures ----- - - -
- b) Look up ideas and information ----- - - -
- c) Do scientific procedures or experiments ----- - - -
- d) Study natural phenomena through simulations ----- - - -
- e) Process and analyze data ----- - - -

BTBS19CA

BTBS19CB

BTBS19CC

BTBS19CD

BTBS19CE

Science Topics Taught to the <TIMSS Class/Class with the TIMSS students>

20

The following list includes the main topics addressed by the TIMSS science test. Choose the response that best describes when the students in this class have been taught each topic. If a topic was in the curriculum before the <eighth grade>, please choose “Mostly taught before this year.” If a topic was taught half this year but not yet completed, please choose “Mostly taught this year.” If a topic is not in the curriculum, please choose “Not yet taught or just introduced.”

Check **one** circle for each line.

Mostly taught before this year
Mostly taught this year
Not yet taught or just introduced

A. Biology

- BTBS20AA a) Differences among major taxonomic groups of organisms (plants, animals, fungi, mammals, birds, reptiles, fish, amphibians) ----- — —
- BTBS20AB b) Major organs and organ systems in humans and other organisms (structure/function, life processes that maintain stable bodily conditions) ----- — —
- BTBS20AC c) Cells, their structure and functions, including respiration and photosynthesis as cellular processes ----- — —
- BTBS20AD d) Life cycles, sexual reproduction, and heredity (passing on of traits, inherited versus acquired/learned characteristics) ----- — —
- BTBS20AE e) Role of variation and adaptation in survival/extinction of species in a changing environment (including fossil evidence for changes in life on Earth over time) ----- — —
- BTBS20AF f) Interdependence of populations of organisms in an ecosystem (e.g., energy flow, food webs, competition, predation) and factors affecting population size in an ecosystem ----- — —
- BTBS20AG g) Human health (causes of infectious diseases, methods of infection, prevention, immunity) and the importance of diet and exercise in maintaining health ----- — —

B. Chemistry

- BTBS20BA a) Classification, composition, and particulate structure of matter (elements, compounds, mixtures, molecules, atoms, protons, neutrons, electrons) ----- — —
- BTBS20BB b) Physical and chemical properties of matter ----- — —
- BTBS20BC c) Mixtures and solutions (solvent, solute, concentration/dilution, effect of temperature on solubility) ----- — —
- BTBS20BD d) Properties and uses of common acids and bases ----- — —
- BTBS20BE e) Chemical change (transformation of reactants, evidence of chemical change, conservation of matter, common oxidation reactions – combustion, rusting, tarnishing) ----- — —
- BTBS20BF f) The role of electrons in chemical bonds ----- — —

20 (continued)

Choose the response that best describes when the students in this class have been taught each topic. If a topic was in the curriculum before the <eighth grade>, please choose “Mostly taught before this year.” If a topic was taught half this year but not yet completed, please choose “Mostly taught this year.” If a topic is not in the curriculum, please choose “Not yet taught or just introduced.”

Check **one** circle for each line.



C. Physics

- BTBS20CA a) Physical states and changes in matter (explanations of properties in terms of movement and distance between particles; phase change, thermal expansion, and changes in volume and/or pressure) ----- — —
- BTBS20CB b) Energy forms, transformations, heat, and temperature ----- — —
- BTBS20CC c) Basic properties/behaviors of light (reflection, refraction, light and color, simple ray diagrams) and sound (transmission through media, loudness, pitch, amplitude, frequency) ----- — —
- BTBS20CD d) Electric circuits (flow of current; types of circuits - parallel/series) and properties and uses of permanent magnets and electromagnets ----- — —
- BTBS20CE e) Forces and motion (types of forces, basic description of motion, effects of density and pressure) ----- — —

D. Earth Science

- BTBS20DA a) Earth's structure and physical features (Earth's crust, mantle, and core; composition and relative distribution of water, and composition of air) ----- — —
- BTBS20DB b) Earth's processes, cycles, and history (rock cycle; water cycle; weather versus climate; major geological events; formation of fossils and fossil fuels) ----- — —
- BTBS20DC c) Earth's resources, their use and conservation (e.g., renewable/nonrenewable resources, human use of land/soil, water resources) ----- — —
- BTBS20DD d) Earth in the solar system and the universe (phenomena on Earth - day/night, tides, phases of moon, eclipses, seasons; physical features of Earth compared to other bodies) ----- — —

**Science Homework for the
<TIMSS Class/Class with the
TIMSS students>**

**Science Assessment of the
<TIMSS Class/Class with the
TIMSS students>**

21

22


BTBS21A

A. How often do you usually assign science homework to the students in this class?

How much emphasis do you place on the following sources to monitor students' progress in science?

Check **one** circle only.

Check **one** circle for each line.

- I do not assign science homework --- 
(Go to #22)
- Less than once a week ---
- 1 or 2 times a week ---
- 3 or 4 times a week ---
- Every day ---

- Major emphasis
- Some emphasis
- Little or no emphasis
- a) Assessment of students' ongoing work ----- --- ---
- b) Classroom tests (for example, teacher-made or textbook tests) ----- --- ---
- c) National or regional achievement tests ----- --- ---

BTBS22A

BTBS22B

BTBS22C

BTBS21B

B. When you assign science homework to the students in this class, about how many minutes do you usually assign? (Consider the time it would take an average student in your class.)

Check **one** circle only.

- 15 minutes or less ---
- 16–30 minutes ---
- 31–60 minutes ---
- 61–90 minutes ---
- More than 90 minutes ---

C. How often do you do the following with the science homework assignments for this class?

Check **one** circle for each line.

- Always or almost always
- Sometimes
- Never or almost never
- a) Correct assignments and give feedback to students ----- --- ---
- b) Have students correct their own homework ----- --- ---
- c) Discuss the homework in class ----- --- ---
- d) Monitor whether or not the homework was completed ----- --- ---
- e) Use the homework to contribute towards students' grades or marks ----- --- ---

BTBS21CA

BTBS21CB

BTBS21CC

BTBS21CD

BTBS21CE

Preparation to Teach Science

23

In the past two years, have you participated in professional development in any of the following?

Check **one** circle for each line.

- | | | Yes | No |
|---------|---|-----------------------|-----------------------|
| BTBS23A | a) Science content ----- | <input type="radio"/> | <input type="radio"/> |
| BTBS23B | b) Science pedagogy/instruction ----- | <input type="radio"/> | <input type="radio"/> |
| BTBS23C | c) Science curriculum ----- | <input type="radio"/> | <input type="radio"/> |
| BTBS23D | d) Integrating information technology
into science ----- | <input type="radio"/> | <input type="radio"/> |
| BTBS23E | e) Improving students' critical thinking or
inquiry skills ----- | <input type="radio"/> | <input type="radio"/> |
| BTBS23F | f) Science assessment ----- | <input type="radio"/> | <input type="radio"/> |
| BTBS23G | g) Addressing individual students' needs ----- | <input type="radio"/> | <input type="radio"/> |

24

BTBS24 **In the past two years, how many hours in total have you spent in formal <in-service/professional development> (e.g., workshops, seminars, etc.) for science?**

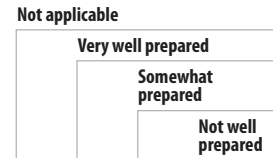
Check **one** circle only.

- None ---
- Less than 6 hours ---
- 6–15 hours ---
- 16–35 hours ---
- More than 35 hours ---

25

How well prepared do you feel you are to teach the following science topics?
If a topic is not in the <eighth grade> curriculum or you are not responsible for teaching this topic, please choose “Not applicable.”

Check **one** circle for each line.



A. Biology

- BTBS25AA a) Differences among major taxonomic groups of organisms (plants, animals, fungi, mammals, birds, reptiles, fish, amphibians) ----- ○ — ○ — ○ — ○
- BTBS25AB b) Major organs and organ systems in humans and other organisms (structure/function, life processes that maintain stable bodily conditions) ----- ○ — ○ — ○ — ○
- BTBS25AC c) Cells, their structure and functions, including respiration and photosynthesis as cellular processes ----- ○ — ○ — ○ — ○
- BTBS25AD d) Life cycles, sexual reproduction, and heredity (passing on of traits, inherited versus acquired/learned characteristics) ----- ○ — ○ — ○ — ○
- BTBS25AE e) Role of variation and adaptation in survival/extinction of species in a changing environment (including fossil evidence for changes in life on Earth over time) ----- ○ — ○ — ○ — ○
- BTBS25AF f) Interdependence of populations of organisms in an ecosystem (e.g., energy flow, food webs, competition, predation) and factors affecting population size in an ecosystem ----- ○ — ○ — ○ — ○
- BTBS25AG g) Human health (causes of infectious diseases, methods of infection, prevention, immunity) and the importance of diet and exercise in maintaining health ----- ○ — ○ — ○ — ○

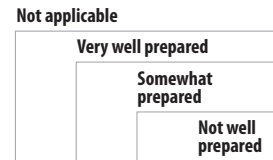
B. Chemistry

- BTBS25BA a) Classification, composition, and particulate structure of matter (elements, compounds, mixtures, molecules, atoms, protons, neutrons, electrons) ----- ○ — ○ — ○ — ○
- BTBS25BB b) Physical and chemical properties of matter ----- ○ — ○ — ○ — ○
- BTBS25BC c) Mixtures and solutions (solvent, solute, concentration/dilution, effect of temperature on solubility) ----- ○ — ○ — ○ — ○
- BTBS25BD d) Properties and uses of common acids and bases ----- ○ — ○ — ○ — ○
- BTBS25BE e) Chemical change (transformation of reactants, evidence of chemical change, conservation of matter, common oxidation reactions – combustion, rusting, tarnishing) ----- ○ — ○ — ○ — ○
- BTBS25BF f) The role of electrons in chemical bonds ----- ○ — ○ — ○ — ○

25 (continued)

How well prepared do you feel you are to teach the following science topics?
If a topic is not in the <eighth grade> curriculum or you are not responsible for teaching this topic, please choose “Not applicable.”

Check **one** circle for each line.



C. Physics

- BTBS25CA a) Physical states and changes in matter (explanations of properties in terms of movement and distance between particles; phase change, thermal expansion, and changes in volume and/or pressure) ----- ○ — ○ — ○ — ○
- BTBS25CB b) Energy forms, transformations, heat, and temperature ----- ○ — ○ — ○ — ○
- BTBS25CC c) Basic properties/behaviors of light (reflection, refraction, light and color, simple ray diagrams) and sound (transmission through media, loudness, pitch, amplitude, frequency) ----- ○ — ○ — ○ — ○
- BTBS25CD d) Electric circuits (flow of current; types of circuits - parallel/series) and properties and uses of permanent magnets and electromagnets ----- ○ — ○ — ○ — ○
- BTBS25CE e) Forces and motion (types of forces, basic description of motion, effects of density and pressure) ----- ○ — ○ — ○ — ○

D. Earth Science

- BTBS25DA a) Earth's structure and physical features (Earth's crust, mantle, and core; composition and relative distribution of water, and composition of air) ----- ○ — ○ — ○ — ○
- BTBS25DB b) Earth's processes, cycles, and history (rock cycle; water cycle; weather versus climate; major geological events; formation of fossils and fossil fuels) ----- ○ — ○ — ○ — ○
- BTBS25DC c) Earth's resources, their use and conservation (e.g., renewable/nonrenewable resources, human use of land/soil, water resources) ----- ○ — ○ — ○ — ○
- BTBS25DD d) Earth in the solar system and the universe (phenomena on Earth - day/night, tides, phases of moon, eclipses, seasons; physical features of Earth compared to other bodies) ----- ○ — ○ — ○ — ○

Thank You

Thank you for the thought, time, and effort you have put into completing this questionnaire.





BOSTON
COLLEGE

**TIMSS
2015**

TRENDS IN INTERNATIONAL MATHEMATICS AND SCIENCE STUDY

Teacher Questionnaire Science

<Grade 8>



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International Association
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Educational Achievement

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TIMSS
2015

SECTION 9:
EIGHTH GRADE –
SCHOOL
QUESTIONNAIRE

TIMSS 2015 USER GUIDE FOR THE
INTERNATIONAL DATABASE



IEA

TIMSS & PIRLS
International Study Center
Lynch School of Education, Boston College

Exhibit S1.9: Index of International Background Variables for the TIMSS 2015 School Questionnaire - Eighth Grade

TIMSS 2015 Question Number	TIMSS 2015 Variable Name	TIMSS 2015 Variable Description (See questionnaire for full item text)	TIMSS 2011 Variable Name	Notes
ScQ-01	BCBG01	What is the total enrollment of students in your school as of <first day of month TIMSS testing begins, 2015>?	BCBG01	
ScQ-02	BCBG02	What is the total enrollment of <eighth grade> students in your school as of <first day of month TIMSS testing begins, 2015>?	BCBG02	
ScQ-03a	BCBG03A	Approximately what percentage of students in your school have the following backgrounds? Come from economically disadvantaged homes	BCBG03A	
ScQ-03b	BCBG03B	Approximately what percentage of students in your school have the following backgrounds? Come from economically affluent homes	BCBG03B	
ScQ-04	BCBG04	Approximately what percentage of students in your school have <language of test> as their native language?	BCBG04	
ScQ-05A	BCBG05A	How many people live in the city, town, or area where your school is located?	BCBG05A	Modified response options in 2015
ScQ-05B	BCBG05B	Which best describes the immediate area in which your school is located?	BCBG05B	
ScQ-06a	BCBG06A	Does your school provide free meals for students? Breakfast		
ScQ-06b	BCBG06B	Does your school provide free meals for students? Lunch		
ScQ-07A	BCBG07A	For the <eighth grade> students in your school: How many days per year is your school open for instruction?	BCBG06A	
ScQ-07B	BCBG07B	For the <eighth grade> students in your school: What is the total instructional time, excluding breaks, in a typical day? (minutes)	BCBG06BA BCBG06BB	Hours and minutes separate variables in 2011
ScQ-07C	BCBG07C	For the <eighth grade> students in your school: In one calendar week, how many days is the school open for instruction?	BCBG06C	
ScQ-08A	BCBG08A	Does your school provide a place where students can work on their schoolwork before or after school?		
ScQ-08B	BCBG08B	(If Yes) Is someone available to assist them with their schoolwork?		
ScQ-09a	BCBG09A	As a general school policy, is student achievement used to assign <eighth grade> students to classes? For mathematics classes		
ScQ-09b	BCBG09B	As a general school policy, is student achievement used to assign <eighth grade> students to classes? For science classes		
ScQ-10	BCBG10	How many computers (including tablets) does your school have for use by <eighth grade> students?	BCBG07	Modified wording in 2015
ScQ-11A	BCBG11A	Does your school have a science laboratory that can be used by <eighth grade> students?	BCBG08A	
ScQ-11B	BCBG11B	Do teachers usually have assistance available when students are conducting science experiments?	BCBG08B	
ScQ-12	BCBG12	Does your school have a school library?		
ScQ-12Aa	BCBG12AA	Approximately how many books with different titles does your school library have? Print		
ScQ-12Ab	BCBG12AB	Approximately how many books with different titles does your school library have? Digital		
ScQ-12Ba	BCBG12BA	Approximately how many titles of magazines and other periodicals does your school library have? Print		
ScQ-12Bb	BCBG12BB	Approximately how many titles of magazines and other periodicals does your school library have? Digital		
ScQ-13Aa	BCBG13AA	How much is your school's capacity to provide instruction affected by a shortage or inadequacy of the following? General School Resources: Instructional materials	BCBG09AA	
ScQ-13Ab	BCBG13AB	How much is your school's capacity to provide instruction affected by a shortage or inadequacy of the following? General School Resources: Supplies (e.g., papers, pencils, materials)	BCBG09AB	Modified wording in 2015

Exhibit S1.9: Index of International Background Variables for the TIMSS 2015 School Questionnaire - Eighth Grade (Continued)

TIMSS 2015 Question Number	TIMSS 2015 Variable Name	TIMSS 2015 Variable Description (See questionnaire for full item text)	TIMSS 2011 Variable Name	Notes
ScQ-13Ac	BCBG13AC	How much is your school's capacity to provide instruction affected by a shortage or inadequacy of the following? General School Resources: School buildings and grounds	BCBG09AC	
ScQ-13Ad	BCBG13AD	How much is your school's capacity to provide instruction affected by a shortage or inadequacy of the following? General School Resources: Heating/cooling and lighting systems	BCBG09AD	
ScQ-13Ae	BCBG13AE	How much is your school's capacity to provide instruction affected by a shortage or inadequacy of the following? General School Resources: Instructional space	BCBG09AE	
ScQ-13Af	BCBG13AF	How much is your school's capacity to provide instruction affected by a shortage or inadequacy of the following? General School Resources: Technologically competent staff	BCBG09AF	
ScQ-13Ag	BCBG13AG	How much is your school's capacity to provide instruction affected by a shortage or inadequacy of the following? General School Resources: Audio-visual resources for delivery of instruction		
ScQ-13Ah	BCBG13AH	How much is your school's capacity to provide instruction affected by a shortage or inadequacy of the following? General School Resources: Computer technology for teaching and learning		
ScQ-13Ai	BCBG13AI	How much is your school's capacity to provide instruction affected by a shortage or inadequacy of the following? General School Resources: Resources for students with disabilities		
ScQ-13Ba	BCBG13BA	How much is your school's capacity to provide instruction affected by a shortage or inadequacy of the following? Resources for Mathematics Instruction: Teachers with a specialization in mathematics	BCBG09BA	
ScQ-13Bb	BCBG13BB	How much is your school's capacity to provide instruction affected by a shortage or inadequacy of the following? Resources for Mathematics Instruction: Computer software/applications	BCBG09BC	Modified wording in 2015
ScQ-13Bc	BCBG13BC	How much is your school's capacity to provide instruction affected by a shortage or inadequacy of the following? Resources for Mathematics Instruction: Library resources relevant to mathematics instruction	BCBG09BD	Modified wording in 2015
ScQ-13Bd	BCBG13BD	How much is your school's capacity to provide instruction affected by a shortage or inadequacy of the following? Resources for Mathematics Instruction: Calculators for mathematics instruction	BCBG09BF	
ScQ-13Be	BCBG13BE	How much is your school's capacity to provide instruction affected by a shortage or inadequacy of the following? Resources for Mathematics Instruction: Concrete objects or materials to help students understand quantities or procedures		
ScQ-13Ca	BCBG13CA	How much is your school's capacity to provide instruction affected by a shortage or inadequacy of the following? Resources for Science Instruction: Teachers with a specialization in science	BCBG09CA	
ScQ-13Cb	BCBG13CB	How much is your school's capacity to provide instruction affected by a shortage or inadequacy of the following? Resources for Science Instruction: Computer software/applications for science instruction	BCBG09CC	Modified wording in 2015
ScQ-13Cc	BCBG13CC	How much is your school's capacity to provide instruction affected by a shortage or inadequacy of the following? Resources for Science Instruction: Library resources relevant to science instruction	BCBG09CD	Modified wording in 2015
ScQ-13Cd	BCBG13CD	How much is your school's capacity to provide instruction affected by a shortage or inadequacy of the following? Resources for Science Instruction: Calculators for science instruction	BCBG09CF	
ScQ-13Ce	BCBG13CE	How much is your school's capacity to provide instruction affected by a shortage or inadequacy of the following? Resources for Science Instruction: Science equipment and materials for experiments	BCBG09CG	Modified wording in 2015
ScQ-14a	BCBG14A	How would you characterize each of the following within your school? Teachers' understanding of the school's curricular goals	BCBG11B	

Exhibit S1.9: Index of International Background Variables for the TIMSS 2015 School Questionnaire - Eighth Grade (Continued)

TIMSS 2015 Question Number	TIMSS 2015 Variable Name	TIMSS 2015 Variable Description (See questionnaire for full item text)	TIMSS 2011 Variable Name	Notes
ScQ-14b	BCBG14B	How would you characterize each of the following within your school? Teachers' degree of success in implementing the school's curriculum	BCBG11C	
ScQ-14c	BCBG14C	How would you characterize each of the following within your school? Teachers' expectations for student achievement	BCBG11D	
ScQ-14d	BCBG14D	How would you characterize each of the following within your school? Teachers working together to improve student achievement		
ScQ-14e	BCBG14E	How would you characterize each of the following within your school? Teachers' ability to inspire students		
ScQ-14f	BCBG14F	How would you characterize each of the following within your school? Parental involvement in school activities	BCBG11F	
ScQ-14g	BCBG14G	How would you characterize each of the following within your school? Parental commitment to ensure that students are ready to learn		
ScQ-14h	BCBG14H	How would you characterize each of the following within your school? Parental expectations for student achievement		
ScQ-14i	BCBG14I	How would you characterize each of the following within your school? Parental support for student achievement	BCBG11E	
ScQ-14j	BCBG14J	How would you characterize each of the following within your school? Parental pressure for the school to maintain high academic standards		
ScQ-14k	BCBG14K	How would you characterize each of the following within your school? Students' desire to do well in school	BCBG11H	
ScQ-14l	BCBG14L	How would you characterize each of the following within your school? Students' ability to reach school's academic goals		
ScQ-14m	BCBG14M	How would you characterize each of the following within your school? Students' respect for classmates who excel in school		
ScQ-15a	BCBG15A	To what degree is each of the following a problem among <eighth grade> students in your school? Arriving late at school	BCBG12AA	
ScQ-15b	BCBG15B	To what degree is each of the following a problem among <eighth grade> students in your school? Absenteeism	BCBG12AB	
ScQ-15c	BCBG15C	To what degree is each of the following a problem among <eighth grade> students in your school? Classroom disturbance	BCBG12AC	
ScQ-15d	BCBG15D	To what degree is each of the following a problem among <eighth grade> students in your school? Cheating	BCBG12AD	
ScQ-15e	BCBG15E	To what degree is each of the following a problem among <eighth grade> students in your school? Profanity	BCBG12AE	
ScQ-15f	BCBG15F	To what degree is each of the following a problem among <eighth grade> students in your school? Vandalism	BCBG12AF	
ScQ-15g	BCBG15G	To what degree is each of the following a problem among <eighth grade> students in your school? Theft	BCBG12AG	
ScQ-15h	BCBG15H	To what degree is each of the following a problem among <eighth grade> students in your school? Intimidation or verbal abuse among students	BCBG12AH	
ScQ-15i	BCBG15I	To what degree is each of the following a problem among <eighth grade> students in your school? Physical injury to other students	BCBG12AI	
ScQ-15j	BCBG15J	To what degree is each of the following a problem among <eighth grade> students in your school? Intimidation or verbal abuse of teachers or staff	BCBG12AJ	
ScQ-15k	BCBG15K	To what degree is each of the following a problem among <eighth grade> students in your school? Physical injury to teachers or staff	BCBG12AK	
ScQ-16a	BCBG16A	How difficult was it to fill <eighth grade> teaching vacancies for this school year for the following subjects? Mathematics	BCBG15A	
ScQ-16b	BCBG16B	How difficult was it to fill <eighth grade> teaching vacancies for this school year for the following subjects? Science	BCBG15B	
ScQ-16c	BCBG16C	How difficult was it to fill <eighth grade> teaching vacancies for this school year for the following subjects? Other		

Exhibit S1.9: Index of International Background Variables for the TIMSS 2015 School Questionnaire - Eighth Grade (Continued)

TIMSS 2015 Question Number	TIMSS 2015 Variable Name	TIMSS 2015 Variable Description (See questionnaire for full item text)	TIMSS 2011 Variable Name	Notes
ScQ-17a	BCBG17A	Does your school currently use any incentives to recruit or retain <eighth grade> teachers in the following fields? Mathematics	BCBG16A	
ScQ-17b	BCBG17B	Does your school currently use any incentives to recruit or retain <eighth grade> teachers in the following fields? Science	BCBG16B	
ScQ-17c	BCBG17C	Does your school currently use any incentives to recruit or retain <eighth grade> teachers in the following fields? Other	BCBG16C	
ScQ-18a	BCBG18A	To what degree is each of the following a problem among teachers in your school? Arriving late or leaving early	BCBG12BA	
ScQ-18b	BCBG18B	To what degree is each of the following a problem among teachers in your school? Absenteeism	BCBG12BB	
ScQ-19	BCBG19	By the end of this school year, how many years will you have been a principal altogether?		
ScQ-20	BCBG20	By the end of this school year, how many years will you have been a principal at this school?		
ScQ-21	BCBG21	What is the highest level of formal education you have completed?		
ScQ-22a	BCBG22A	Do you hold the following degrees in educational leadership? <Master's or equivalent level—ISCED Level 7>		
ScQ-22b	BCBG22B	Do you hold the following degrees in educational leadership? <Doctor or equivalent level—ISCED Level 8>		



Identification Label

TRENDS IN INTERNATIONAL MATHEMATICS AND SCIENCE STUDY

School Questionnaire

<Grade 8>

<TIMSS National Research Center Name>

<Address>



TIMSS & PIRLS
International Study Center
Lynch School of Education, Boston College

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School Questionnaire

Your school has agreed to participate in TIMSS 2015 (Trends in International Mathematics and Science Study), an educational research project sponsored by the International Association for the Evaluation of Educational Achievement (IEA). TIMSS measures trends in student achievement in mathematics and science and studies differences in national education systems in almost 60 countries in order to help improve teaching and learning worldwide.

This questionnaire is addressed to school principals and department heads who are asked to supply information about their schools. Since your school has been selected as part of a nationwide sample, your responses are very important in helping to describe secondary education in <country>.

It is important that you answer each question carefully so that the information provided reflects the situation in your school as accurately as possible. Some of the questions will require that you look up school records, so you may wish to arrange for the assistance of another staff member to help provide this information.

Since TIMSS is an international study and all countries are using the same questionnaire, you may find that some of the questions seem unusual or are not entirely relevant to you or schools in <country>. Nevertheless, it is important that you do your best to answer all of the questions so comparisons can be made across countries in the study.

It is estimated that you will need approximately 30 minutes to complete this questionnaire. We appreciate the time and effort that this takes and thank you for your cooperation and contribution.

When you have completed the questionnaire, please place it in the accompanying envelope and return it to:

<Insert country-specific information here>.

Thank you.

TIMSS 2015

School Enrollment and Characteristics

1 _____
BCBG01 **What is the total enrollment of students in your school as of <first day of month TIMSS testing begins, 2015>?**

_____ students
Write in the number.

2 _____
BCBG02 **What is the total enrollment of <eighth grade> students in your school as of <first day of month TIMSS testing begins, 2015>?**

_____ students
Write in the number.

3 _____
BCBG03A **Approximately what percentage of students in your school have the following backgrounds?**

Check one circle for each line.

		0 to 10%	11 to 25%	26 to 50%	More than 50%
a) Come from economically disadvantaged homes	-----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) Come from economically affluent homes	-----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

4 _____
BCBG04 **Approximately what percentage of students in your school have <language of test> as their native language?**

Check one circle only.

- More than 90% ---
- 76 to 90% ---
- 51 to 75% ---
- 26 to 50% ---
- 25% or less ---

5 _____
A. **How many people live in the city, town, or area where your school is located?**

Check one circle only.

- More than 500,000 people ---
- 100,001 to 500,000 people ---
- 50,001 to 100,000 people ---
- 30,001 to 50,000 people ---
- 15,001 to 30,000 people ---
- 3,001 to 15,000 people ---
- 3,000 people or fewer ---

B. **Which best describes the immediate area in which your school is located?**

Check one circle only.

- Urban—Densely populated ---
- Suburban—On fringe or outskirts of urban area ---
- Medium size city or large town ---
- Small town or village ---
- Remote rural ---

6 _____
Does your school provide free meals for students?

Check one circle for each line.

		Yes, for all students	Yes, for some students	No
a) Breakfast	-----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) Lunch	-----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Instructional Time

7

For the <eighth grade> students in your school:

BCBG07A

A. How many days per year is your school open for instruction?

_____ days
Write in the number.

BCBG07B

B. What is the total instructional time, excluding breaks, in a typical day?

_____ minutes
Write in the number of minutes per day.
Please convert the number of hours into minutes.

BCBG07C

C. In one calendar week, how many days is the school open for instruction?

Check **one** circle only.

- 6 days ---
- 5 1/2 days ---
- 5 days ---
- 4 1/2 days ---
- 4 days ---
- Other ---

8

BCBG08A

A. Does your school provide a place where students can work on their schoolwork before or after school?

Check **one** circle only.

- Yes ---
 - No ---
- (If No, go to #9)

BCBG08B

If Yes,

B. Is someone available to assist them with their schoolwork?

Check **one** circle only.

- Yes ---
- No ---

9

As a general school policy, is student achievement used to assign <eighth grade> students to classes (e.g., streaming, tracking, setting)?

Check **one** circle for each line.

- | | | Yes | | No |
|---------------------------------|-----------------------|-----|---|-----------------------|
| a) For mathematics classes----- | <input type="radio"/> | | - | <input type="radio"/> |
| b) For science classes----- | <input type="radio"/> | | - | <input type="radio"/> |

BCBG09A

BCBG09B

Resources and Technology

10

BCBG10

How many computers (including tablets) does your school have for use by <eighth grade> students?

_____ computers
Write in the number.

12

Does your school have a school library?

BCBG12

Check **one** circle only.

Yes ---
No ---

(If No, go to #13)

11

BCBG11A

A. Does your school have a science laboratory that can be used by <eighth grade> students?

Check **one** circle only.

Yes ---
No ---

BCBG11B

B. Do teachers usually have assistance available when students are conducting science experiments?

Check **one** circle only.

Yes ---
No ---

If Yes,

A. Approximately how many books (print and digital) with different titles does your school library have (exclude magazines and periodicals)?

Check **one** circle in each column.

	Print	Digital
250 or fewer---	<input type="radio"/>	<input type="radio"/>
251–500---	<input type="radio"/>	<input type="radio"/>
501–2,000---	<input type="radio"/>	<input type="radio"/>
2,001–5,000---	<input type="radio"/>	<input type="radio"/>
5,001–10,000---	<input type="radio"/>	<input type="radio"/>
More than 10,000---	<input type="radio"/>	<input type="radio"/>

BCBG12AA

BCBG12AB

B. Approximately how many titles of magazines and other periodicals (print and digital) does your school library have?

Check **one** circle in each column.

	Print	Digital
0---	<input type="radio"/>	<input type="radio"/>
1–5---	<input type="radio"/>	<input type="radio"/>
6–10---	<input type="radio"/>	<input type="radio"/>
11–30---	<input type="radio"/>	<input type="radio"/>
31 or more---	<input type="radio"/>	<input type="radio"/>

BCBG12BA

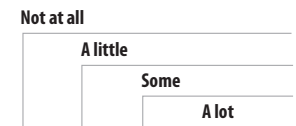
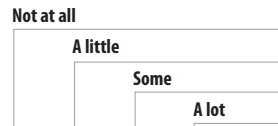
BCBG12BB

13

How much is your school's capacity to provide instruction affected by a shortage or inadequacy of the following?

Check **one** circle for each line.

Check **one** circle for each line.



A. General School Resources

B. Resources for Mathematics Instruction

- BCBG13AA a) Instructional materials (e.g., textbooks) ----- ○ — ○ — ○ — ○
- BCBG13AB b) Supplies (e.g., papers, pencils, materials) ----- ○ — ○ — ○ — ○
- BCBG13AC c) School buildings and grounds ----- ○ — ○ — ○ — ○
- BCBG13AD d) Heating/cooling and lighting systems ----- ○ — ○ — ○ — ○
- BCBG13AE e) Instructional space (e.g., classrooms) ----- ○ — ○ — ○ — ○
- BCBG13AF f) Technologically competent staff ----- ○ — ○ — ○ — ○
- BCBG13AG g) Audio-visual resources for delivery of instruction (e.g., interactive white boards, digital projectors) ----- ○ — ○ — ○ — ○
- BCBG13AH h) Computer technology for teaching and learning (e.g., computers or tablets for student use) ----- ○ — ○ — ○ — ○
- BCBG13AI i) Resources for students with disabilities ----- ○ — ○ — ○ — ○

- BCBG13BA a) Teachers with a specialization in mathematics ----- ○ — ○ — ○ — ○
- BCBG13BB b) Computer software/ applications for mathematics instruction ----- ○ — ○ — ○ — ○
- BCBG13BC c) Library resources relevant to mathematics instruction ----- ○ — ○ — ○ — ○
- BCBG13BD d) Calculators for mathematics instruction ----- ○ — ○ — ○ — ○
- BCBG13BE e) Concrete objects or materials to help students understand quantities or procedures ----- ○ — ○ — ○ — ○
- BCBG13CA **C. Resources for Science Instruction**
- BCBG13CB a) Teachers with a specialization in science ----- ○ — ○ — ○ — ○
- BCBG13CC b) Computer software/ applications for science instruction ----- ○ — ○ — ○ — ○
- BCBG13CD c) Library resources relevant to science instruction ----- ○ — ○ — ○ — ○
- BCBG13CE d) Calculators for science instruction ----- ○ — ○ — ○ — ○
- BCBG13CE e) Science equipment and materials for experiments ----- ○ — ○ — ○ — ○

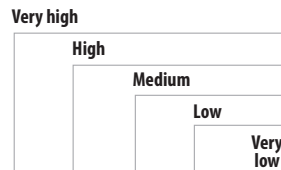
School Emphasis on Academic Success

School Discipline and Safety

14

How would you characterize each of the following within your school?

Check **one** circle for each line.

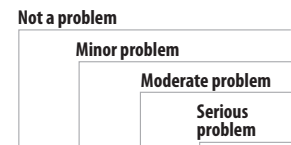


- BCBG14A a) Teachers' understanding of the school's curricular goals ----- ○ — ○ — ○ — ○ — ○
- BCBG14B b) Teachers' degree of success in implementing the school's curriculum ----- ○ — ○ — ○ — ○ — ○
- BCBG14C c) Teachers' expectations for student achievement ----- ○ — ○ — ○ — ○ — ○
- BCBG14D d) Teachers working together to improve student achievement ----- ○ — ○ — ○ — ○ — ○
- BCBG14E e) Teachers' ability to inspire students ----- ○ — ○ — ○ — ○ — ○
- BCBG14F f) Parental involvement in school activities ----- ○ — ○ — ○ — ○ — ○
- BCBG14G g) Parental commitment to ensure that students are ready to learn ----- ○ — ○ — ○ — ○ — ○
- BCBG14H h) Parental expectations for student achievement ----- ○ — ○ — ○ — ○ — ○
- BCBG14I i) Parental support for student achievement ----- ○ — ○ — ○ — ○ — ○
- BCBG14J j) Parental pressure for the school to maintain high academic standards ----- ○ — ○ — ○ — ○ — ○
- BCBG14K k) Students' desire to do well in school ----- ○ — ○ — ○ — ○ — ○
- BCBG14L l) Students' ability to reach school's academic goals ----- ○ — ○ — ○ — ○ — ○
- BCBG14M m) Students' respect for classmates who excel in school ----- ○ — ○ — ○ — ○ — ○

15

To what degree is each of the following a problem among <eighth grade> students in your school?

Check **one** circle for each line.



- a) Arriving late at school ----- ○ — ○ — ○ — ○ BCBG15A
- b) Absenteeism (i.e., unjustified absences) ----- ○ — ○ — ○ — ○ BCBG15B
- c) Classroom disturbance ----- ○ — ○ — ○ — ○ BCBG15C
- d) Cheating ----- ○ — ○ — ○ — ○ BCBG15D
- e) Profanity ----- ○ — ○ — ○ — ○ BCBG15E
- f) Vandalism ----- ○ — ○ — ○ — ○ BCBG15F
- g) Theft ----- ○ — ○ — ○ — ○ BCBG15G
- h) Intimidation or verbal abuse among students (including texting, emailing, etc.) ----- ○ — ○ — ○ — ○ BCBG15H
- i) Physical injury to other students ----- ○ — ○ — ○ — ○ BCBG15I
- j) Intimidation or verbal abuse of teachers or staff (including texting, emailing, etc.) ----- ○ — ○ — ○ — ○ BCBG15J
- k) Physical injury to teachers or staff ----- ○ — ○ — ○ — ○ BCBG15K

Teachers in Your School

16 How difficult was it to fill <eighth grade> teaching vacancies for this school year for the following subjects?

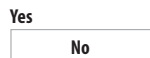
Check **one** circle for each line.



- BCBG16A a) Mathematics -----
- BCBG16B b) Science -----
- BCBG16C c) Other -----

17 Does your school currently use any incentives (e.g., pay, housing, signing bonus, smaller classes) to recruit or retain <eighth grade> teachers in the following fields?

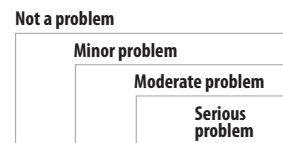
Check **one** circle for each line.



- BCBG17A a) Mathematics -----
- BCBG17B b) Science -----
- BCBG17C c) Other -----

18 To what degree is each of the following a problem among teachers in your school?

Check **one** circle for each line.



- BCBG18A a) Arriving late or leaving early --
- BCBG18B b) Absenteeism -----

Principal Experience and Education

19 By the end of this school year, how many years will you have been a principal altogether?

BCBG19

_____ years
Please **round** to the nearest whole number.

20 By the end of this school year, how many years will you have been a principal at this school?

BCBG20

_____ years
Please **round** to the nearest whole number.

21 What is the highest level of formal education you have completed?

BCBG21

Check **one** circle only.

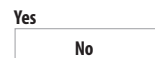
- Did not complete <Bachelor's or equivalent level—ISCED Level 6> ---
- <Bachelor's or equivalent level—ISCED Level 6> ---
- <Master's or equivalent level—ISCED Level 7> ---
- <Doctor or equivalent level—ISCED Level 8> ---

22 Do you hold the following degrees in educational leadership?

BCBG22A

BCBG22B

Check **one** circle for each line.



- a) <Master's or equivalent level—ISCED Level 7> -----
- b) <Doctor or equivalent level—ISCED Level 8> -

Thank You

Thank you for the thought, time, and effort you have put into completing this questionnaire.





Identification Label

TRENDS IN INTERNATIONAL MATHEMATICS AND SCIENCE STUDY

School Questionnaire

<Grade 8>

<TIMSS National Research Center Name>

<Address>



TIMSS & PIRLS
International Study Center
Lynch School of Education, Boston College

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TIMSS
2015

SECTION 10:
EIGHTH GRADE –
CURRICULUM
QUESTIONNAIRE

TIMSS 2015 USER GUIDE FOR THE
INTERNATIONAL DATABASE



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International Study Center
Lynch School of Education, Boston College

Exhibit S1.10: Index of International Variables for the TIMSS 2015 Curriculum Questionnaire - Eighth Grade

TIMSS 2015 Question Number	TIMSS 2015 Variable Name	TIMSS 2015 Variable Description (See questionnaire for full item text)
CQG-01	GEN01	What is your country's name for the grade(s) tested in TIMSS 2015, in English (e.g., grade 4, grade 8)?
CQG-02A	GEN02A	In your country, what is the stated official policy or regulation on students' age of entry to primary school (ISCED Level 1)?
CQG-02B	GEN02B	If the official policy [on age of entry] allows some parental discretion or choice, please describe the usual practice.
CQG-03A	GEN03A	Has the stated official policy [on age of entry] changed in the last 10 years?
CQG-03B	GEN03B	If Yes...How did the policy change, and when was the change made?
CQG-04	GEN04	What are the ages and/or grades of compulsory education in your country?
CQG-05	GEN05	Beginning with ISCED Level 1, what grades of schooling are provided to students through ISCED Level 3 (upper secondary)?
CQG-06	GEN06	Does your country have a policy on the promotion and retention of students across grades 1-8?
CQG-06T	GEN06T	Does your country have a policy on the promotion and retention of students across grades 1-8? Please describe:
CQG-07	GEN07	Does your country have a nationally mandated number of school days per year?
CQG-07T	GEN07T	Does your country have a nationally mandated number of school days per year? Please describe:
CQG-08Aa	GEN08AA	Does your country provide universal ECED or PPE coverage? ECED programs for children under 3
CQG-08Ab	GEN08AB	Does your country provide universal ECED or PPE coverage? PPE programs for children age 3 or older
CQG-08B	GEN08B	How many years can children attend [ECED or PPE] programs altogether?
CQG-08BT	GEN08BT	How many years can children attend [ECED or PPE] programs altogether? Comments:
CQG-08C	GEN08C	Does your country provide targeted ECED or PPE coverage?
CQG-08CTA	GEN08CTA	Does your country provide targeted ECED or PPE coverage? Please describe:
CQG-08CTB	GEN08CTB	Does your country provide targeted ECED or PPE coverage? Comments:
CQG-09A	GEN09A	Does your country have national curriculum guidance documents for early childhood education?
CQG-09BaA	GEN09BAA	If Yes...Do the curriculum guidance documents cover any of the following topic areas? ECED programs: Socio-emotional development
CQG-09BaB	GEN09BAB	If Yes...Do the curriculum guidance documents cover any of the following topic areas? PPE programs: Socio-emotional development
CQG-09BbA	GEN09BBA	If Yes...Do the curriculum guidance documents cover any of the following topic areas? ECED programs: Physical development and health education
CQG-09BbB	GEN09BBB	If Yes...Do the curriculum guidance documents cover any of the following topic areas? PPE programs: Physical development and health education
CQG-09BcA	GEN09BCA	If Yes...Do the curriculum guidance documents cover any of the following topic areas? ECED programs: Oral language development and communication skills
CQG-09BcB	GEN09BCB	If Yes...Do the curriculum guidance documents cover any of the following topic areas? PPE programs: Oral language development and communication skills
CQG-09BdA	GEN09BDA	If Yes...Do the curriculum guidance documents cover any of the following topic areas? ECED programs: Reading and literacy skills
CQG-09BdB	GEN09BDB	If Yes...Do the curriculum guidance documents cover any of the following topic areas? PPE programs: Reading and literacy skills
CQG-09BeA	GEN09BEA	If Yes...Do the curriculum guidance documents cover any of the following topic areas? ECED programs: Mathematics and numeracy skills
CQG-09BeB	GEN09BEB	If Yes...Do the curriculum guidance documents cover any of the following topic areas? PPE programs: Mathematics and numeracy skills
CQG-09BfA	GEN09BFA	If Yes...Do the curriculum guidance documents cover any of the following topic areas? ECED programs: Science including understanding the natural world (e.g., weather)
CQG-09BfB	GEN09BFB	If Yes...Do the curriculum guidance documents cover any of the following topic areas? PPE programs: Science including understanding the natural world (e.g., weather)
CQG-09BgA	GEN09BGA	If Yes...Do the curriculum guidance documents cover any of the following topic areas? ECED programs: Other
CQG-09BgB	GEN09BGB	If Yes...Do the curriculum guidance documents cover any of the following topic areas? PPE programs: Other
CQG-09BgT	GEN09BGT	If Yes...Do the curriculum guidance documents cover any of the following topic areas? ECED and PPE programs: Other, please specify below:

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TIMSS 2015 Question Number	TIMSS 2015 Variable Name	TIMSS 2015 Variable Description (See questionnaire for full item text)
CQG-09BT	GEN09BT	If Yes...Do the curriculum guidance documents cover any of the following topic areas? ECED and PPE programs: Comments:
CQG-10A	GEN10A	Does an educational authority in your country (e.g., National Ministry of Education) administer examinations that have consequences for individual students, such as entry to a higher school system, entry to a university, and/or exiting or graduating from secondary school?
CQG-10B	GEN10B	If Yes...Please describe the grades at which the exams are given, the subjects that are assessed, and the purpose of each exam.
CQG-11A	GEN11A	Does your country have a policy on using student achievement to assign students to classes (e.g., streaming, tracking, setting)?
CQG-11B	GEN11B	If Yes...Please describe. Include whether this policy is used to assign students to mathematics and science classes and at what grade level assignment takes place.
CQG-12A	GEN12A	What is the main preparation route(s) for teachers of students in the fourth grade?
CQG-12Ba	GEN12BA	According to the main teacher preparation route, what are the current requirements for being a teacher of students in the fourth grade? Supervised practicum during the teacher education program
CQG-12BaT	GEN12BAT	If Yes...How long is this period?
CQG-12Bb	GEN12BB	According to the main teacher preparation route, what are the current requirements for being a teacher of students in the fourth grade? Passing a qualifying examination (e.g., licensing, certification)
CQG-12Bc	GEN12BC	According to the main teacher preparation route, what are the current requirements for being a teacher of students in the fourth grade? Completion of a probationary teaching period
CQG-12BcT	GEN12BCT	If Yes...How long is this period?
CQG-12Bd	GEN12BD	According to the main teacher preparation route, what are the current requirements for being a teacher of students in the fourth grade? Completion of a mentoring or induction program.
CQG-12Be	GEN12BE	According to the main teacher preparation route, what are the current requirements for being a teacher of students in the fourth grade? Other
CQG-12BeT	GEN12BET	According to the main teacher preparation route, what are the current requirements for being a teacher of students in the fourth grade? Other, please specify below:
CQG-12C	GEN12C	Has the stated official policy for [the preparation of] fourth grade teachers changed in the last 10 years?
CQG-12D	GEN12D	If Yes...How did the policy change, and when was the change made?
CQG-13A	GEN13A	Is the main preparation route(s) for teachers of students in the eighth grade different from the main preparation route(s) at the fourth grade?
CQG-13B	GEN13B	If Yes...If the main preparation route(s) for teachers of students in the eighth grade is different, what is their main preparation route?
CQG-13Ca	GEN13CA	If the requirements are different than the fourth grade, what are the current requirements for being a teacher of students in the eighth grade? Supervised practicum during the teacher education program
CQG-13CaT	GEN13CAT	If Yes...How long is this period?
CQG-13Cb	GEN13CB	If the requirements are different than the fourth grade, what are the current requirements for being a teacher of students in the eighth grade? Passing a qualifying examination (e.g., licensing, certification)
CQG-13c	GEN13CC	If the requirements are different than the fourth grade, what are the current requirements for being a teacher of students in the eighth grade? Completion of a probationary teaching period
CQG-13CcT	GEN13CCT	If Yes...How long is this period?
CQG-13Cd	GEN13CD	If the requirements are different than the fourth grade, what are the current requirements for being a teacher of students in the eighth grade? Completion of a mentoring or induction program
CQG-13Ce	GEN13CE	If the requirements are different than the fourth grade, what are the current requirements for being a teacher of students in the eighth grade? Other
CQG-13CeT	GEN13CET	If the requirements are different than the fourth grade, what are the current requirements for being a teacher of students in the eighth grade? Other, please specify below:
CQG-13D	GEN13D	Has the stated official policy changed for [the preparation of] eighth grade teachers in the last 10 years?
CQG-13E	GEN13E	If Yes...How did the policy change, and when was the change made?
CQG-14A	GEN14A	What is the main preparation route(s) for principals of schools with fourth grade students?
CQG-14Ba	GEN14BA	According to the main principal preparation route, what are the current requirements for being a principal of a school with fourth grade students? Teaching experience

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TIMSS 2015 Question Number	TIMSS 2015 Variable Name	TIMSS 2015 Variable Description (See questionnaire for full item text)
CQG-14Bb	GEN14BB	According to the main principal preparation route, what are the current requirements for being a principal of a school with fourth grade students? Completion of a specialized school leadership training program
CQG-14Bc	GEN14BC	According to the main principal preparation route, what are the current requirements for being a principal of a school with fourth grade students? Other
CQG-14BcT	GEN14BCT	According to the main principal preparation route, what are the current requirements for being a principal of a school with fourth grade students? Other, please specify below:
CQG-14C	GEN14C	Has the stated official policy changed in the last 10 years for [the preparation of] principals of schools with fourth grade students?
CQG-14D	GEN14D	If Yes...How did the policy change, and when was the change made?
CQG-15A	GEN15A	Is the main preparation route(s) for principals of schools with eighth grade students different from the main preparation route(s) for principals of schools with fourth grade students?
CQG-15B	GEN15B	If the main preparation route(s) for principals of schools with eighth grade students is different, what is their main preparation route?
CQG-15Ca	GEN15CA	According to the main principal preparation route, what are the current requirements for being a principal of a school with eighth grade students? Teaching experience
CQG-15Cc	GEN15CB	According to the main principal preparation route, what are the current requirements for being a principal of a school with eighth grade students? Completion of a specialized school leadership training program
CQG-15Cc	GEN15CC	According to the main principal preparation route, what are the current requirements for being a principal of a school with eighth grade students? Other
CQG-15CcT	GEN15CCT	According to the main principal preparation route, what are the current requirements for being a principal of a school with eighth grade students? Other, please specify below:
CQG-15D	GEN15D	Has the stated official policy changed in the last 10 years for [the preparation of] principals of schools with eighth grade students?
CQG-15E	GEN15E	If Yes...How did the policy change, and when was the change made?
CQM8-01	MA801	Does your country have a national curriculum that covers mathematics instruction at the eighth grade of formal schooling?
CQM8-01TA	MA801TA	If Yes...Comments:
CQM8-01TB	MA801TB	If No...What is the highest level of decision-making authority (e.g., state or province) that provides a curriculum that covers mathematics instruction at the eighth grade of formal schooling?
CQM8-02A	MA802A	In what year was the 2014/2015 mathematics curriculum introduced?
CQM8-02AT	MA802AT	In what year was the 2014/2015 mathematics curriculum introduced? Comments:
CQM8-02B	MA802B	Is the mathematics curriculum currently being revised?
CQM8-02BTA	MA802BTA	If Yes...Please explain:
CQM8-02BTB	MA802BTB	If No...Comments:
CQM8-03TA	MA803TA	For the middle/lower secondary school mathematics curriculum, what is the grade structure?
CQM8-03TB	MA803TB	For the middle/lower secondary school mathematics curriculum, what is the grade structure? Comments:
CQM8-04a	MA804A	What does the mathematics curriculum prescribe? Goals and objectives
CQM8-04b	MA804B	What does the mathematics curriculum prescribe? Instructional processes or methods
CQM8-04c	MA804C	What does the mathematics curriculum prescribe? Materials (e.g., textbooks, instructional materials)
CQM8-04d	MA804D	What does the mathematics curriculum prescribe? Assessment methods/activities
CQM8-04e	MA804E	What does the mathematics curriculum prescribe? Other
CQM8-04eT	MA804ET	What does the mathematics curriculum prescribe? Other, please specify below:
CQM8-04T	MA804T	What does the mathematics curriculum prescribe? Comments:
CQM8-05	MA805	Does the curriculum or any other official document prescribe the percentage of total instructional time to be devoted to mathematics instruction at the eighth grade of formal schooling?
CQM8-05TA	MA805TA	If Yes...Please specify the percentage:
CQM8-05TB	MA805TB	Does the curriculum or any other official document prescribe the percentage of total instructional time to be devoted to mathematics instruction at the eighth grade of formal schooling? Comments:
CQM8-06a	MA806A	How is the mathematics curriculum implementation evaluated? Visits by inspectors
CQM8-06b	MA806B	How is the mathematics curriculum implementation evaluated? Research programs

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TIMSS 2015 Question Number	TIMSS 2015 Variable Name	TIMSS 2015 Variable Description (See questionnaire for full item text)
CQM8-06c	MA806C	How is the mathematics curriculum implementation evaluated? School self-evaluation
CQM8-06d	MA806D	How is the mathematics curriculum implementation evaluated? National or regional examinations
CQM8-06e	MA806E	How is the mathematics curriculum implementation evaluated? Other
CQM8-06eT	MA806ET	How is the mathematics curriculum implementation evaluated? Other, please specify below:
CQM8-06T	MA806T	How is the mathematics curriculum implementation evaluated? Comments:
CQM8-07A	MA807A	Is there a process for approving the mathematics instructional materials?
CQM8-07AT	MA807AT	If Yes...Please describe the process, and what materials (e.g., textbooks, workbooks, online materials) must be approved through this process.
CQM8-07B	MA807B	Does the national curriculum contain statements/policies about the use of technology (e.g., computers, tablets, calculators) in grade 8 mathematics instruction?
CQM8-07BT	MA807BT	If Yes...What are the statements/policies?
CQM8-07C	MA807C	Does the national curriculum contain statements/policies about student use of technological aids (e.g., computers, tablets, calculators) in grade 8 mathematics tests or examinations?
CQM8-07CTA	MA807CTA	If Yes...What are the statements/policies?
CQM8-07CTB	MA807CTB	Does the national curriculum contain statements/policies about student use of technological aids (e.g., computers, tablets, calculators) in grade 8 mathematics tests or examinations? Comments:
CQM8-08Aa	MA808AA	According to the national mathematics curriculum, what proportion of grade 8 students should have been taught each of the following topics or skills by the end of grade 8? Number: Computing with whole numbers
CQM8-08AaP to CQM8-08Aa12	MA808AAP to MA808AA12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Number: Computing with whole numbers
CQM8-08Ab	MA808AB	According to the national mathematics curriculum, what proportion of grade 8 students should have been taught each of the following topics or skills by the end of grade 8? Number: Comparing and ordering rational numbers
CQM8-08AbP to CQM8-08Ab12	MA808ABP to MA808AB12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Number: Comparing and ordering rational numbers
CQM8-08Ac	MA808AC	According to the national mathematics curriculum, what proportion of grade 8 students should have been taught each of the following topics or skills by the end of grade 8? Number: Computing with rational numbers
CQM8-08AcP to CQM8-08Ac12	MA808ACP to MA808AC12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Number: Computing with rational numbers
CQM8-08Ad	MA808AD	According to the national mathematics curriculum, what proportion of grade 8 students should have been taught each of the following topics or skills by the end of grade 8? Number: Concepts of irrational numbers
CQM8-08AdP to CQM8-08Ad12	MA808ADP to MA808AD12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Number: Concepts of irrational numbers
CQM8-08Ae	MA808AE	According to the national mathematics curriculum, what proportion of grade 8 students should have been taught each of the following topics or skills by the end of grade 8? Number: Problem solving involving percents or proportions
CQM8-08AeP to CQM8-08Ae12	MA808AEP to MA808AE12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Number: Problem solving involving percents or proportions
CQM8-08AT	MA808AT	According to the national mathematics curriculum, what proportion of grade 8 students should have been taught each of the following topics or skills by the end of grade 8? Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Number topics: Comments:
CQM8-08Ba	MA808BA	According to the national mathematics curriculum, what proportion of grade 8 students should have been taught each of the following topics or skills by the end of grade 8? Algebra: Simplifying and evaluating algebraic expressions

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TIMSS 2015 Question Number	TIMSS 2015 Variable Name	TIMSS 2015 Variable Description (See questionnaire for full item text)
CQM8-08BaP to CQM8-08Ba12	MA808BAP to MA808BA12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Algebra: Simplifying and evaluating algebraic expressions
CQM8-08Bb	MA808BB	According to the national mathematics curriculum, what proportion of grade 8 students should have been taught each of the following topics or skills by the end of grade 8? Algebra: Simple linear equations and inequalities
CQM8-08BbP to CQM8-08Bb12	MA808BBP to MA808BB12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Algebra: Simple linear equations and inequalities
CQM8-08Bc	MA808BC	According to the national mathematics curriculum, what proportion of grade 8 students should have been taught each of the following topics or skills by the end of grade 8? Algebra: Simultaneous (two variables) equations
CQM8-08BcP to CQM8-08Bc12	MA808BCP to MA808BC12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Algebra: Simultaneous (two variables) equations
CQM8-08Bd	MA808BD	According to the national mathematics curriculum, what proportion of grade 8 students should have been taught each of the following topics or skills by the end of grade 8? Algebra: Numeric, algebraic, and geometric patterns or sequences
CQM8-08BdP to CQM8-08Bd12	MA808BDP to MA808BD12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Algebra: Numeric, algebraic, and geometric patterns or sequences
CQM8-08Be	MA808BE	According to the national mathematics curriculum, what proportion of grade 8 students should have been taught each of the following topics or skills by the end of grade 8? Algebra: Representation of functions as ordered pairs, tables, graphs, words, or equations
CQM8-08BeP to CQM8-08Be12	MA808BEP to MA808BE12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Algebra: Representation of functions as ordered pairs, tables, graphs, words, or equations
CQM8-08Bf	MA808BF	According to the national mathematics curriculum, what proportion of grade 8 students should have been taught each of the following topics or skills by the end of grade 8? Algebra: Properties of functions
CQM8-08BfP to CQM8-08Bf12	MA808BfP to MA808BF12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Algebra: Properties of functions
CQM8-08BT	MA808BT	According to the national mathematics curriculum, what proportion of grade 8 students should have been taught each of the following topics or skills by the end of grade 8? Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Algebra topics: Comments:
CQM8-08Ca	MA808CA	According to the national mathematics curriculum, what proportion of grade 8 students should have been taught each of the following topics or skills by the end of grade 8? Geometry: Geometric properties of angles and geometric shapes
CQM8-08CaP to CQM8-08Ca12	MA808CAP to MA808CA12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Geometry: Geometric properties of angles and geometric shapes
CQM8-08Cb	MA808CB	According to the national mathematics curriculum, what proportion of grade 8 students should have been taught each of the following topics or skills by the end of grade 8? Geometry: Congruent figures and similar triangles
CQM8-08CbP to CQM8-08Cb12	MA808CBP to MA808CB12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Geometry: Congruent figures and similar triangles
CQM8-08Cc	MA808CC	According to the national mathematics curriculum, what proportion of grade 8 students should have been taught each of the following topics or skills by the end of grade 8? Geometry: Relationship between three-dimensional shapes and their two-dimensional representations
CQM8-08CcP to CQM8-08Cc12	MA808CCP to MA808CC12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Geometry: Relationship between three-dimensional shapes and their two-dimensional representations

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TIMSS 2015 Question Number	TIMSS 2015 Variable Name	TIMSS 2015 Variable Description (See questionnaire for full item text)
CQM8-08Cd	MA808CD	According to the national mathematics curriculum, what proportion of grade 8 students should have been taught each of the following topics or skills by the end of grade 8? Geometry: Using appropriate measurement formulas for perimeters, circumferences, areas, surface areas, and volumes
CQM8-08CdP to CQM8-08Cd12	MA808CDP to MA808CD12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Geometry: Using appropriate measurement formulas for perimeters, circumferences, areas, surface areas, and volumes
CQM8-08Ce	MA808CE	According to the national mathematics curriculum, what proportion of grade 8 students should have been taught each of the following topics or skills by the end of grade 8? Geometry: Points on the Cartesian plane
CQM8-08CeP to CQM8-08Ce12	MA808CEP to MA808CE12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Geometry: Points on the Cartesian plane
CQM8-08Cf	MA808CF	According to the national mathematics curriculum, what proportion of grade 8 students should have been taught each of the following topics or skills by the end of grade 8? Geometry: Translation, reflection, and rotation
CQM8-08CfP to CQM8-08Cf12	MA808CFP to MA808CF12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Geometry: Translation, reflection, and rotation
CQM8-08CT	MA808CT	According to the national mathematics curriculum, what proportion of grade 8 students should have been taught each of the following topics or skills by the end of grade 8? Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Geometry topics: Comments:
CQM8-08Da	MA808DA	According to the national mathematics curriculum, what proportion of grade 8 students should have been taught each of the following topics or skills by the end of grade 8? Data and Chance: Characteristics of data sets
CQM8-08DaP to CQM8-08Da12	MA808DAP to MA808DA12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Data and Chance: Characteristics of data sets
CQM8-08Db	MA808DB	According to the national mathematics curriculum, what proportion of grade 8 students should have been taught each of the following topics or skills by the end of grade 8? Data and Chance: Interpreting data sets
CQM8-08DbP to CQM8-08Db12	MA808DBP to MA808DB12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Data and Chance: Interpreting data sets
CQM8-08Dc	MA808DC	According to the national mathematics curriculum, what proportion of grade 8 students should have been taught each of the following topics or skills by the end of grade 8? Data and Chance: Judging, predicting, and determining the chances of possible outcomes
CQM8-08DcP to CQM8-08Dc12	MA808DCP to MA808DC12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Data and Chance: Judging, predicting, and determining the chances of possible outcomes
CQM8-08DT	MA808DT	According to the national mathematics curriculum, what proportion of grade 8 students should have been taught each of the following topics or skills by the end of grade 8? Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Data and Chance topics: Comments:
CQS8-01	SC801	Does your country have a national curriculum that covers science instruction at the eighth grade of formal schooling?
CQS8-01TA	SC801TA	If Yes...Comments:
CQS8-01TB	SC801TB	If No...What is the highest level of decision-making authority (e.g., state or province) that provides a curriculum that covers science instruction at the eighth grade of formal schooling?
CQS8-02A	SC802A	In what year was the 2014/2015 science curriculum introduced?
CQS8-02AT	SC802AT	In what year was the 2014/2015 science curriculum introduced? Comments:
CQS8-02B	SC802B	Is the science curriculum currently being revised?
CQS8-02BTA	SC802BTA	If Yes...Please explain:
CQS8-02BTB	SC802BTB	If No...Comments:

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TIMSS 2015 Question Number	TIMSS 2015 Variable Name	TIMSS 2015 Variable Description (See questionnaire for full item text)
CQS8-03TA	SC803TA	For the middle/lower secondary school science curriculum, what is the grade structure?
CQS8-03TB	SC803TB	For the middle/lower secondary school science curriculum, what is the grade structure? Comments:
CQS8-04a	SC804A	What does the science curriculum prescribe? Goals and objectives
CQS8-04b	SC804B	What does the science curriculum prescribe? Instructional processes or methods
CQS8-04c	SC804C	What does the science curriculum prescribe? Materials (e.g., textbooks, instructional materials)
CQS8-04d	SC804D	What does the science curriculum prescribe? Assessment methods/activities
CQS8-04e	SC804E	What does the science curriculum prescribe? Other
CQS8-04eT	SC804ET	What does the science curriculum prescribe? Other, please specify below:
CQS8-04T	SC804T	What does the science curriculum prescribe? Comments:
CQS8-05	SC805	Does the curriculum or any other official document prescribe the percentage of total instructional time to be devoted to science instruction at the eighth grade of formal schooling?
CQS8-05TA	SC805TA	If Yes...Please specify the percentage
CQS8-05TB	SC805TB	Does the curriculum or any other official document prescribe the percentage of total instructional time to be devoted to science instruction at the eighth grade of formal schooling? Comments:
CQS8-06a	SC806A	How is the science curriculum implementation evaluated? Visits by inspectors
CQS8-06b	SC806B	How is the science curriculum implementation evaluated? Research programs
CQS8-06c	SC806C	How is the science curriculum implementation evaluated? School self-evaluation
CQS8-06d	SC806D	How is the science curriculum implementation evaluated? National or regional examinations
CQS8-06e	SC806E	How is the science curriculum implementation evaluated? Other
CQS8-06eT	SC806ET	How is the science curriculum implementation evaluated? Other, please specify below:
CQS8-06T	SC806T	How is the science curriculum implementation evaluated? Comments:
CQS8-07A	SC807A	Is there a process for approving the science instructional materials?
CQS8-07AT	SC807AT	If Yes...Please describe the process, and what materials (e.g., textbooks, workbooks, online materials) must be approved through this process.
CQS8-07B	SC807B	Does the national curriculum contain statements/policies about the use of technology (e.g., computers, tablets, calculators) in grade 8 science instruction?
CQS8-07BT	SC807BT	If Yes...What are the statements/policies?
CQS8-08Aa	SC808AA	According to the national science curriculum, what proportion of grade 8 students should have been taught each of the following topics or skills by the end of grade 8? Biology: Differences among major taxonomic groups of organisms
CQS8-08AaP to CQS8-08Aa12	SC808AAP to SC808AA12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Biology: Differences among major taxonomic groups of organisms
CQS8-08Ab	SC808AB	According to the national science curriculum, what proportion of grade 8 students should have been taught each of the following topics or skills by the end of grade 8? Biology: Major organs and organ systems in humans and other organisms
CQS8-08AbP to CQS8-08Ab12	SC808ABP to SC808AB12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Biology: Major organs and organ systems in humans and other organisms
CQS8-08Ac	SC808AC	According to the national science curriculum, what proportion of grade 8 students should have been taught each of the following topics or skills by the end of grade 8? Biology: Cells, their structure and functions, including respiration and photosynthesis as cellular processes
CQS8-08AcP to CQS8-08Ac12	SC808ACP to SC808AC12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Biology: Cells, their structure and functions, including respiration and photosynthesis as cellular processes
CQS8-08Ad	SC808AD	According to the national science curriculum, what proportion of grade 8 students should have been taught each of the following topics or skills by the end of grade 8? Biology: Life cycles, sexual reproduction, and heredity
CQS8-08AdP to CQS8-08Ad12	SC808ADP to SC808AD12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Biology: Life cycles, sexual reproduction, and heredity

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TIMSS 2015 Question Number	TIMSS 2015 Variable Name	TIMSS 2015 Variable Description (See questionnaire for full item text)
CQS8-08Ae	SC808AE	According to the national science curriculum, what proportion of grade 8 students should have been taught each of the following topics or skills by the end of grade 8? Biology: Role of variation and adaptation in survival/extinction of species in a changing environment
CQS8-08AeP to CQS8-08Ae12	SC808AEP to SC808AE12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Biology: Role of variation and adaptation in survival/extinction of species in a changing environment
CQS8-08Af	SC808AF	According to the national science curriculum, what proportion of grade 8 students should have been taught each of the following topics or skills by the end of grade 8? Biology: Interdependence of populations of organisms in an ecosystem and factors affecting population size in an ecosystem
CQS8-08AfP to CQS8-08Af12	SC808AFP to SC808AF12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Biology: Interdependence of populations of organisms in an ecosystem and factors affecting population size in an ecosystem
CQS8-08Ag	SC808AG	According to the national science curriculum, what proportion of grade 8 students should have been taught each of the following topics or skills by the end of grade 8? Biology: Human health and the importance of diet and exercise in maintaining health
CQS8-08AgP to CQS8-08Ag12	SC808AGP to SC808AG12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Biology: Human health and the importance of diet and exercise in maintaining health
CQS8-08AT	SC808AT	According to the national science curriculum, what proportion of grade 8 students should have been taught each of the following topics or skills by the end of grade 8? Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Biology topics: Comments:
CQS8-08Ba	SC808BA	According to the national science curriculum, what proportion of grade 8 students should have been taught each of the following topics or skills by the end of grade 8? Chemistry: Classification, composition, and particulate structure of matter
CQS8-08BaP to CQS8-08Ba12	SC808BAP to SC808BA12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Chemistry: Classification, composition, and particulate structure of matter
CQS8-08Bb	SC808BB	According to the national science curriculum, what proportion of grade 8 students should have been taught each of the following topics or skills by the end of grade 8? Chemistry: Physical and chemical properties of matter
CQS8-08BbP to CQS8-08Bb12	SC808BBP to SC808BB12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Chemistry: Physical and chemical properties of matter
CQS8-08Bc	SC808BC	According to the national science curriculum, what proportion of grade 8 students should have been taught each of the following topics or skills by the end of grade 8? Chemistry: Mixtures and solutions
CQS8-08BcP to CQS8-08Bc12	SC808BCP to SC808BC12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Chemistry: Mixtures and solutions
CQS8-08Bd	SC808BD	According to the national science curriculum, what proportion of grade 8 students should have been taught each of the following topics or skills by the end of grade 8? Chemistry: Properties and uses of common acids and bases
CQS8-08BdP to CQS8-08Bd12	SC808BDP to SC808BD12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Chemistry: Properties and uses of common acids and bases
CQS8-08Be	SC808BE	According to the national science curriculum, what proportion of grade 8 students should have been taught each of the following topics or skills by the end of grade 8? Chemistry: Chemical change
CQS8-08BeP to CQS8-08Be12	SC808BEP to SC808BE12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Chemistry: Chemical change

Exhibit S1.10: Index of International Variables for the TIMSS 2015 Curriculum Questionnaire - Eighth Grade
(Continued)

TIMSS 2015 Question Number	TIMSS 2015 Variable Name	TIMSS 2015 Variable Description (See questionnaire for full item text)
CQS8-08Bf	SC808BF	According to the national science curriculum, what proportion of grade 8 students should have been taught each of the following topics or skills by the end of grade 8? Chemistry: The role of electrons in chemical bonds
CQS8-08BfP to CQS8-08Bf12	SC808BFP to SC808BF12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Chemistry: The role of electrons in chemical bonds
CQS8-08BT	SC808BT	According to the national science curriculum, what proportion of grade 8 students should have been taught each of the following topics or skills by the end of grade 8? Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Chemistry topics: Comments:
CQS8-08Ca	SC808CA	According to the national science curriculum, what proportion of grade 8 students should have been taught each of the following topics or skills by the end of grade 8? Physics: Physical states and changes in matter
CQS8-08CaP to CQS8-08Ca12	SC808CAP to SC808CA12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Physics: Physical states and changes in matter
CQS8-08Cb	SC808CB	According to the national science curriculum, what proportion of grade 8 students should have been taught each of the following topics or skills by the end of grade 8? Physics: Energy forms, transformations, heat, and temperature
CQS8-08CbP to CQS8-08Cb12	SC808CBP to SC808CB12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Physics: Energy forms, transformations, heat, and temperature
CQS8-08Cc	SC808CC	According to the national science curriculum, what proportion of grade 8 students should have been taught each of the following topics or skills by the end of grade 8? Physics: Basic properties/behaviors of light and sound
CQS8-08CcP to CQS8-08Cc12	SC808CCP to SC808CC12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Physics: Basic properties/behaviors of light and sound
CQS8-08Cd	SC808CD	According to the national science curriculum, what proportion of grade 8 students should have been taught each of the following topics or skills by the end of grade 8? Physics: Electric circuits and properties and uses of permanent magnets and electromagnets
CQS8-08CdP to CQS8-08Cd12	SC808CDP to SC808CD12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Physics: Electric circuits and properties and uses of permanent magnets and electromagnets
CQS8-08Ce	SC808CE	According to the national science curriculum, what proportion of grade 8 students should have been taught each of the following topics or skills by the end of grade 8? Physics: Forces and motion
CQS8-08CeP to CQS8-08Ce12	SC808CEP to SC808CE12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Physics: Forces and motion
CQS8-08CT	SC808CT	According to the national science curriculum, what proportion of grade 8 students should have been taught each of the following topics or skills by the end of grade 8? Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Physics topics: Comments:
CQS8-08Da	SC808DA	According to the national science curriculum, what proportion of grade 8 students should have been taught each of the following topics or skills by the end of grade 8? Earth Science: Earth's structure and physical features
CQS8-08DaP to CQS8-08Da12	SC808DAP to SC808DA12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Earth Science: Earth's structure and physical features
CQS8-08Db	SC808DB	According to the national science curriculum, what proportion of grade 8 students should have been taught each of the following topics or skills by the end of grade 8? Earth Science: Earth's processes, cycles, and history

Exhibit S1.10: Index of International Variables for the TIMSS 2015 Curriculum Questionnaire - Eighth Grade
(Continued)

TIMSS 2015 Question Number	TIMSS 2015 Variable Name	TIMSS 2015 Variable Description (See questionnaire for full item text)
CQS8-08DbP to CQS8-08Db12	SC808DBP to SC808DB12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Earth Science: Earth's processes, cycles, and history
CQS8-08Dc	SC808DC	According to the national science curriculum, what proportion of grade 8 students should have been taught each of the following topics or skills by the end of grade 8? Earth Science: Earth's resources, their use and conservation
CQS8-08DcP to CQS8-08Dc12	SC808DCP to SC808DC12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Earth Science: Earth's resources, their use and conservation
CQS8-08Dd	SC808DD	According to the national science curriculum, what proportion of grade 8 students should have been taught each of the following topics or skills by the end of grade 8? Earth Science: Earth in the solar system and the universe
CQS8-08DdP to CQS8-08Dd12	SC808DDP to SC808DD12	Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Earth Science: Earth in the solar system and the universe
CQS8-08DT	SC808DT	According to the national science curriculum, what proportion of grade 8 students should have been taught each of the following topics or skills by the end of grade 8? Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Earth Science topics: Comments:



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TIMSS 2015 Curriculum Questionnaire— Eighth Grade

Grade



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TIMSS2015MS_OCQ - English
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Welcome to the IEA - DPC SurveySystem

**TIMSS 2015
Curriculum Questionnaire**

Please enter your user ID and password (Checksum).

User ID:

Password:

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TIMSS 2015 Curriculum Questionnaire – Eighth Grade

TIMSS 2015 Curriculum Questionnaire – Eighth Grade

The TIMSS 2015 Curriculum Questionnaire is designed to collect basic information about the structure of the education system as well as the organization, content, and implementation of the mathematics and/or science curricula in each country.

The questionnaire should be completed by the National Research Coordinators, drawing on the expertise of curriculum specialists and educators. Please submit this questionnaire no later than **August 31, 2015**.

To begin the questionnaire, please click on the "Next" button. When navigating through the questionnaire, make sure to confirm your responses by clicking on the "Next" or "Previous" button. To go to a particular section or item, please click on the corresponding link in the "Table of Contents."

Please note that the General Module is the same across the fourth and eighth grades, and therefore National Research Coordinators of countries participating in TIMSS 2015 at both the fourth and eighth grade are advised to complete the General Module at only one of the grade levels. The Mathematics and Science Modules should be completed at both grade levels.

If you have any questions about the content of this questionnaire, please contact the TIMSS & PIRLS International Study Center at Boston College: timss@bc.edu

If you have any technical questions on how to complete this questionnaire, please contact the IEA Data Processing & Research Center (DPC): timss@iea-dpc.de

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TIMSS 2015 Curriculum Questionnaire – Eighth Grade - GENERAL MODULE

GENERAL MODULE

To be completed by all countries participating in TIMSS

Please note: if you already have completed the General Module of the Grade 4 Curriculum Questionnaire, please skip the General Module using the Table of Contents.

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GEN01

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TIMSS 2015 Curriculum Questionnaire – Eighth Grade - Grade Structure and Student Flow

Grade Structure and Student Flow

G1. What is your country's name for the grade(s) tested in TIMSS 2015, in English (e.g., grade 4, grade 8)?

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TIMSS 2015 Curriculum Questionnaire – Eighth Grade - Grade Structure and Student Flow

GEN02A

G2. A. In your country, what is the stated official policy or regulation on students' age of entry to primary school (ISCED Level 1)?

Examples: "Children begin school during the calendar year of their 6th birthday"; "Children must be 6 years old by the end of June to begin school the following September."

GEN02B

B. If the official policy allows some parental discretion or choice, please describe the usual practice.

Example: "Even though the official policy is that students can begin school in the year when they turn 6 years old, children typically begin primary school at age 7 because their parents feel they will benefit from being more mature."

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GEN03A

GEN03B

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TIMSS 2015 Curriculum Questionnaire – Eighth Grade - Grade Structure and Student Flow

G3. A. Has the stated official policy changed in the last 10 years?

Check one circle only.

Yes
 No

If Yes....

B. How did the policy change, and when was the change made?

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GEN04

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TIMSS 2015 Curriculum Questionnaire – Eighth Grade - Grade Structure and Student Flow

G4. What are the ages and/or grades of compulsory education in your country?

Example: "Ages 6-16; Grades 1-9."

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GEN05

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TIMSS 2015 Curriculum Questionnaire – Eighth Grade - Grade Structure and Student Flow

G5. Beginning with ISCED Level 1, what grades of schooling are provided to students through ISCED Level 3 (upper secondary)?

Example: "Grades 1-12."

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GEN06

GEN06T

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TIMSS 2015 Curriculum Questionnaire – Eighth Grade - Grade Structure and Student Flow

G6. Does your country have a policy on the promotion and retention of students across grades 1-8?

Example: "Automatic promotion for grades 1-5, dependent on academic progress for grades 6-8."

Check **one** circle only.

- Yes
- No

Please describe:

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TIMSS 2015 Curriculum Questionnaire – Eighth Grade - Grade Structure and Student Flow

GEN07

G7. Does your country have a nationally mandated number of school days per year?

Check one circle only.

- Yes
- No

Please describe:

GEN07T

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TIMSS 2015 Curriculum Questionnaire – Eighth Grade - Early Childhood Education

Early Childhood Education

Early childhood education (ISCED Level 0) is subdivided into:
 • **Early childhood educational development (ECED)** programs for children under 3; and
 • **Pre-primary education (PPE)** programs including Kindergarten for children age 3 or older.

G8. A. Does your country provide universal ECED or PPE coverage?

Programs with **universal** coverage are accessible and available to all children, although in some cases parents may choose not to enroll their children.

Check **one** circle for each line.

- | | Yes | No |
|---|-----------------------|-----------------------|
| a) ECED programs for children under 3 | <input type="radio"/> | <input type="radio"/> |
| b) PPE programs for children age 3 or older | <input type="radio"/> | <input type="radio"/> |

B. How many years can children attend these programs altogether?

Check **one** circle only.

- 1 year
- 2 years
- 3 years
- 4 or more years

Comments:

C. Does your country provide targeted ECED or PPE coverage?

Programs with **targeted** coverage are only available for certain subgroups (e.g., for children from low-income families, for children where the language spoken at home is different from the national language).

Check **one** circle only.

- Yes
- No

Please describe:

Comments:

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GEN08AA
GEN08AB
GEN08B

GEN08BT

GEN08C

GEN08CTA

GEN08CTB

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TIMSS 2015 Curriculum Questionnaire – Eighth Grade - Early Childhood Education

GEN09A

G9. A. Does your country have national curriculum guidance documents for early childhood education?

Check **one** circle only.

- Yes
- No

If Yes....

B. Do the curriculum guidance documents cover any of the following topic areas?

Check **one** circle for ECED programs, AND **one** circle for PPE programs.

	ECED programs		PPE programs	
	Yes	No	Yes	No
a) Socio-emotional development	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) Physical development and health education	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) Oral language development and communication skills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) Reading and literacy skills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) Mathematics and numeracy skills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f) Science including understanding the natural world (e.g., weather)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g) Other Please specify below:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

GEN09BAA
GEN09BBA
GEN09BCA
GEN09BDA
GEN09BEA
GEN09BFA
GEN09BGA

GEN09BAB
GEN09BBB
GEN09BCB
GEN09BDB
GEN09BEB
GEN09BFB
GEN09BGB

GEN09BGT

Comments:

GEN09BT

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TIMSS 2015 Curriculum Questionnaire – Eighth Grade - Examinations

Examinations

G10. A. Does an educational authority in your country (e.g., National Ministry of Education) administer examinations that have consequences for individual students, such as entry to a higher school system, entry to a university, and/or exiting or graduating from secondary school?

Check *one* circle only.

- Yes
- No

If Yes....

B. Please describe the grades at which the exams are given, the subjects that are assessed, and the purpose of each exam.

Example: "There is an exam including language and mathematics given at the end of grade 8 to determine placement for entry to secondary school."

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GEN10A

GEN10B

GEN11A

GEN11B

TIMSS - 2015 - English
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TIMSS 2015 Curriculum Questionnaire – Eighth Grade - Examinations

G11. A. Does your country have a policy on using student achievement to assign students to classes (e.g., streaming, tracking, setting)?

Check one circle only.

Yes
 No

If Yes....

B. Please describe. Include whether this policy is used to assign students to mathematics and science classes and at what grade level assignment takes place.

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TIMSS 2015 Curriculum Questionnaire – Eighth Grade - Teacher Preparation

Teacher Preparation

G12. A. What is the main preparation route(s) for teachers of students in the fourth grade?

Example: "Most teachers receive their education through a university degree program. Some have attended a teacher college program, but that is becoming less common."

B. According to the main teacher preparation route, what are the current requirements for being a teacher of students in the fourth grade?

Check one circle for each line.

- | | Yes | No |
|---|-----------------------|-----------------------|
| a) Supervised practicum during the teacher education program. | <input type="radio"/> | <input type="radio"/> |
| <i>If Yes...</i> | | |
| How long is this period? | | |
| b) Passing a qualifying examination (e.g., licensing, certification). | <input type="radio"/> | <input type="radio"/> |
| c) Completion of a probationary teaching period. | <input type="radio"/> | <input type="radio"/> |
| <i>If Yes...</i> | | |
| How long is this period? | | |
| d) Completion of a mentoring or induction program (e.g., experienced teachers work with novice teachers to provide instructional guidance). | <input type="radio"/> | <input type="radio"/> |
| e) Other | <input type="radio"/> | <input type="radio"/> |
| Please specify below: | | |

C. Has the stated official policy for fourth grade teachers changed in the last 10 years?

Check one circle only.

- Yes
 No

If Yes....

D. How did the policy change, and when was the change made?

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GEN12A

GEN12BA
GEN12BAT
GEN12BB
GEN12BC
GEN12BCT

GEN12BD

GEN12BE

GEN12BET

GEN12C

GEN12D

TIMSS - 2015 - English
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TIMSS 2015 Curriculum Questionnaire – Eighth Grade - Teacher Preparation

GEN13A

G13. A. Is the main preparation route(s) for teachers of students in the eighth grade different from the main preparation route(s) at the fourth grade?

Check **one** circle only.

- Yes
- No

GEN13B

If Yes....

B. If the main preparation route(s) for teachers of students in the eighth grade is different, what is their main preparation route?

C. If the requirements are different than the fourth grade, what are the current requirements for being a teacher of students in the eighth grade?

Check **one** circle for each line.

GEN13CA

GEN13CAT

GEN13CB

GEN13CC

GEN13CCT

GEN13CD

GEN13CE

GEN13CET

	Yes	No
a) Supervised practicum during the teacher education program.	<input type="radio"/>	<input type="radio"/>
<i>If Yes...</i>		
How long is this period?	<input type="text"/>	
b) Passing a qualifying examination (e.g., licensing, certification).	<input type="radio"/>	<input type="radio"/>
c) Completion of a probationary teaching period.	<input type="radio"/>	<input type="radio"/>
<i>If Yes...</i>		
How long is this period?	<input type="text"/>	
d) Completion of a mentoring or induction program (e.g., experienced teachers work with novice teachers to provide instructional guidance).	<input type="radio"/>	<input type="radio"/>
e) Other	<input type="radio"/>	<input type="radio"/>
Please specify below:		

GEN13D

D. Has the stated official policy changed for eighth grade teachers in the last 10 years?

Check **one** circle only.

- Yes
- No

GEN13E

If Yes....

E. How did the policy change, and when was the change made?

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TIMSS - 2015 - English
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TIMSS 2015 Curriculum Questionnaire – Eighth Grade - Principal Preparation

Principal Preparation

G14. A. What is the main preparation route(s) for principals of schools with fourth grade students?

Example: "In addition to receiving their teaching qualifications, most principals have a degree in educational leadership."

B. According to the main principal preparation route, what are the current requirements for being a principal of a school with fourth grade students?

*Check **one** circle for each line.*

	Yes	No
a) Teaching experience	<input type="radio"/>	<input type="radio"/>
b) Completion of a specialized school leadership training program (including a school leadership degree program)	<input type="radio"/>	<input type="radio"/>
c) Other Please specify below:	<input type="radio"/>	<input type="radio"/>

C. Has the stated official policy changed in the last 10 years for principals of schools with fourth grade students?

*Check **one** circle only.*

- Yes
 No

If Yes....

D. How did the policy change, and when was the change made?

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GEN14A

GEN14BA

GEN14BB

GEN14BC

GEN14BCT

GEN14C

GEN14D

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TIMSS 2015 Curriculum Questionnaire – Eighth Grade - Principal Preparation

GEN15A

G15. A. Is the main preparation route(s) for principals of schools with eighth grade students different from the main preparation route(s) for principals of schools with fourth grade students?

Check **one** circle only.

- Yes
 No

GEN15B

If Yes....
B. If the main preparation route(s) for principals of schools with eighth grade students is different, what is their main preparation route?

Example: "In addition to receiving their teaching qualifications, most principals have a degree in educational leadership."

C. According to the main principal preparation route, what are the current requirements for being a principal of a school with eighth grade students?

Check **one** circle for each line.

GEN15CA

GEN15CB

GEN15CC

	Yes	No
a) Teaching experience	<input type="radio"/>	<input type="radio"/>
b) Completion of a specialized school leadership training program (including a school leadership degree program)	<input type="radio"/>	<input type="radio"/>
c) Other Please specify below:	<input type="radio"/>	<input type="radio"/>

GEN15CCT

GEN15D

D. Has the stated official policy changed in the last 10 years for principals of schools with eighth grade students?

Check **one** circle only.

- Yes
 No

GEN15E

If Yes....
E. How did the policy change, and when was the change made?

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TIMSS 2015 Curriculum Questionnaire – Eighth Grade - MATHEMATICS MODULE - GRADE 8

MATHEMATICS MODULE - GRADE 8

To be completed by all countries participating in TIMSS at the eighth grade

This mathematics module refers to the national curriculum that was in effect for the eighth grade students assessed in TIMSS 2015—the curriculum that covers mathematics instruction at the eighth grade of formal schooling for the majority of students. If you do not have a national curriculum, please summarize for your state or provincial curricula.

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TIMSS 2015 Curriculum Questionnaire – Eighth Grade - About the Eighth Grade Mathematics Curriculum

About the Eighth Grade Mathematics Curriculum

This mathematics module refers to the national curriculum that was in effect for the eighth grade students assessed in TIMSS 2015—the curriculum that covers mathematics instruction at the eighth grade of formal schooling for the majority of students. If you do not have a national curriculum, please summarize for your state or provincial curricula.

M1. Does your country have a national curriculum that covers mathematics instruction at the eighth grade of formal schooling?

Check *one* circle only.

- Yes
- No

If Yes...

Comments:

If No...

What is the highest level of decision-making authority (e.g., state or province) that provides a curriculum that covers mathematics instruction at the eighth grade of formal schooling?

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MA801

MA801TA

MA801TB

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TIMSS 2015 Curriculum Questionnaire – Eighth Grade - About the Eighth Grade Mathematics Curriculum

MA802A

M2. A. In what year was the 2014/2015 mathematics curriculum introduced?

Comments:

MA802AT

MA802B

B. Is the mathematics curriculum currently being revised?

Check one circle only.

- Yes
- No

If Yes...

Please explain:

MA802BTA

If No...

Comments:

MA802BTB

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TIMSS 2015 Curriculum Questionnaire – Eighth Grade - About the Eighth Grade Mathematics Curriculum

M3. For the middle/lower secondary school mathematics curriculum, what is the grade structure?

Examples: "Grades 1-8"; "Grades 4-8"; "Grades 6-8"; "Grades 7-9."

Comments:

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MA803TA

MA803TB

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TIMSS 2015 Curriculum Questionnaire – Eighth Grade - Curriculum Specifications

Curriculum Specifications

This mathematics module refers to the national curriculum that was in effect for the eighth grade students assessed in TIMSS 2015—the curriculum that covers mathematics instruction at the eighth grade of formal schooling for the majority of students. If you do not have a national curriculum, please summarize for your state or provincial curricula.

M4. What does the mathematics curriculum prescribe?

Check **one** circle for each line.

	Yes	No
a) Goals and objectives	<input type="radio"/>	<input type="radio"/>
b) Instructional processes or methods	<input type="radio"/>	<input type="radio"/>
c) Materials (e.g., textbooks, instructional materials)	<input type="radio"/>	<input type="radio"/>
d) Assessment methods/activities	<input type="radio"/>	<input type="radio"/>
e) Other Please specify below:	<input type="radio"/>	<input type="radio"/>

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TIMSS 2015 Curriculum Questionnaire – Eighth Grade - Curriculum Specifications

MA805

M5. Does the curriculum or any other official document prescribe the percentage of total instructional time to be devoted to mathematics instruction at the eighth grade of formal schooling?

Check one circle only.

- Yes
- No

If Yes...

Please specify the percentage:

MA805TA

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MA805TB

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TIMSS 2015 Curriculum Questionnaire – Eighth Grade - Curriculum Specifications

M6. How is the mathematics curriculum implementation evaluated?

Check one circle for each line.

	Yes	No
a) Visits by inspectors	<input type="radio"/>	<input type="radio"/>
b) Research programs	<input type="radio"/>	<input type="radio"/>
c) School self-evaluation	<input type="radio"/>	<input type="radio"/>
d) National or regional examinations	<input type="radio"/>	<input type="radio"/>
e) Other Please specify below:	<input type="radio"/>	<input type="radio"/>

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TIMSS 2015 Curriculum Questionnaire – Eighth Grade - Instructional Materials and Use of Technology

Instructional Materials and Use of Technology

This mathematics module refers to the national curriculum that was in effect for the eighth grade students assessed in TIMSS 2015—the curriculum that covers mathematics instruction at the eighth grade of formal schooling for the majority of students. If you do not have a national curriculum, please summarize for your state or provincial curricula.

MA807A

M7. A. Is there a process for approving the mathematics instructional materials?

Check **one** circle only.

- Yes
- No

MA807AT

If Yes...

Please describe the process, and what materials (e.g., textbooks, workbooks, online materials) must be approved through this process:

MA807B

B. Does the national curriculum contain statements/policies about the use of technology (e.g., computers, tablets, calculators) in grade 8 mathematics instruction?

Check **one** circle only.

- Yes
- No

MA807BT

If Yes...

What are the statements/policies?

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TIMSS 2015 Curriculum Questionnaire – Eighth Grade - Instructional Materials and Use of Technology

MA807C

C. Does the national curriculum contain statements/policies about student use of technological aids (e.g., computers, tablets, calculators) in grade 8 mathematics tests or examinations?

Check one circle only.

- Yes
- No

MA807CTA

If Yes...

What are the statements/policies?

MA807CTB

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TIMSS 2015 Curriculum Questionnaire – Eighth Grade - Eighth Grade Mathematics Topics Covered

Eighth Grade Mathematics Topics Covered

This mathematics module refers to the national curriculum that was in effect for the eighth grade students assessed in TIMSS 2015—the curriculum that covers mathematics instruction at the eighth grade of formal schooling for the majority of students. If you do not have a national curriculum, please summarize for your state or provincial curricula.

M8. (i) According to the national mathematics curriculum, what proportion of grade 8 students should have been taught each of the following topics or skills by the end of grade 8?

Be sure to include curriculum expectations for all grades up to and including grade 8. Grades represent years of formal schooling. For example, if "Year 9" in your country corresponds to the eighth year of formal schooling, please choose grade 8.

(ii) Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught?

If there are not any specifications to this detail, please indicate national expectations to the best of your ability. If part of a topic does not apply [e.g., fractions in part A topic (c)], please explain in the comment field.

	(i) Proportion of grade 8 students expected to be taught topic			(ii) Grade(s) topic is expected to be taught preprimary (PP) through the end of upper secondary (G12)												
	All or almost all students	Only the more able students	Not included in the curriculum through grade 8	PP	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G11	G12
A. Number	Check one circle for each line.			Check the corresponding grade(s) for each topic.												
a) Computing with whole numbers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Comparing and ordering rational numbers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Computing with rational numbers (fractions, decimals, and integers)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Concepts of irrational numbers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Problem solving involving percents or proportions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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TIMSS 2015 Curriculum Questionnaire – Eighth Grade - Eighth Grade Mathematics Topics Covered

M8. (continued)

(i) According to the national mathematics curriculum, what proportion of grade 8 students should have been taught each of the following topics or skills by the end of grade 8?

Be sure to include curriculum expectations for all grades up to and including grade 8. Grades represent years of formal schooling. For example, if "Year 9" in your country corresponds to the eighth year of formal schooling, please choose grade 8.

(ii) Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught?

If there are not any specifications to this detail, please indicate national expectations to the best of your ability. If part of a topic does not apply [e.g., fractions in part A topic (c)], please explain in the comment field.

	(i) Proportion of grade 8 students expected to be taught topic			(ii) Grade(s) topic is expected to be taught preprimary (PP) through the end of upper secondary (G12)												
	All or almost all students	Only the more able students	Not included in the curriculum through grade 8	Check the corresponding grade(s) for each topic.												
Check one circle for each line.				Check the corresponding grade(s) for each topic.												
B. Algebra				PP	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G11	G12
a) Simplifying and evaluating algebraic expressions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Simple linear equations and inequalities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Simultaneous (two variables) equations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Numeric, algebraic, and geometric patterns or sequences (extension, missing terms, generalization of patterns)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Representation of functions as ordered pairs, tables, graphs, words, or equations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Properties of functions (slopes, intercepts, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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TIMSS 2015 Curriculum Questionnaire – Eighth Grade - Eighth Grade Mathematics Topics Covered

M8. (continued)

(i) According to the national mathematics curriculum, what proportion of grade 8 students should have been taught each of the following topics or skills by the end of grade 8?

Be sure to include curriculum expectations for all grades up to and including grade 8. Grades represent years of formal schooling. For example, if "Year 9" in your country corresponds to the eighth year of formal schooling, please choose grade 8.

(ii) Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught?

If there are not any specifications to this detail, please indicate national expectations to the best of your ability. If part of a topic does not apply [e.g., fractions in part A topic (c)], please explain in the comment field.

	(i) Proportion of grade 8 students expected to be taught topic			(ii) Grade(s) topic is expected to be taught preprimary (PP) through the end of upper secondary (G12)												
	Check one circle for each line.			Check the corresponding grade(s) for each topic.												
	All or almost all students	Only the more able students	Not included in the curriculum through grade 8	PP	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G11	G12
C. Geometry																
a) Geometric properties of angles and geometric shapes (triangles, quadrilaterals, and other common polygons)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Congruent figures and similar triangles	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Relationship between three-dimensional shapes and their two-dimensional representations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Using appropriate measurement formulas for perimeters, circumferences, areas, surface areas, and volumes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Points on the Cartesian plane	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Translation, reflection, and rotation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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TIMSS 2015 Curriculum Questionnaire – Eighth Grade - Eighth Grade Mathematics Topics Covered

M8. (continued)

(i) According to the national mathematics curriculum, what proportion of grade 8 students should have been taught each of the following topics or skills by the end of grade 8?

Be sure to include curriculum expectations for all grades up to and including grade 8. Grades represent years of formal schooling. For example, if "Year 9" in your country corresponds to the eighth year of formal schooling, please choose grade 8.

(ii) Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught?

If there are not any specifications to this detail, please indicate national expectations to the best of your ability. If part of a topic does not apply [e.g., fractions in part A topic (c)], please explain in the comment field.

	(i) Proportion of grade 8 students expected to be taught topic			(ii) Grade(s) topic is expected to be taught preprimary (PP) through the end of upper secondary (G12)												
	All or almost all students	Only the more able students	Not included in the curriculum through grade 8	Check the corresponding grade(s) for each topic.												
	Check one circle for each line.			Check the corresponding grade(s) for each topic.												
<i>D. Data and Chance</i>				PP	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G11	G12
a) Characteristics of data sets (mean, median, mode, and shape of distributions)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Interpreting data sets (e.g., draw conclusions, make predictions, and estimate values between and beyond given data points)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Judging, predicting, and determining the chances of possible outcomes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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TIMSS 2015 Curriculum Questionnaire – Eighth Grade - SCIENCE MODULE - GRADE 8

SCIENCE MODULE - GRADE 8

To be completed by all countries participating in TIMSS at the eighth grade

This science module refers to the national curriculum that was in effect for the eighth grade students assessed in TIMSS 2015—the curriculum that covers science instruction at the eighth grade of formal schooling for the majority of students. If you do not have a national curriculum, please summarize for your state or provincial curricula.

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TIMSS 2015 Curriculum Questionnaire – Eighth Grade - About the Eighth Grade Science Curriculum

About the Eighth Grade Science Curriculum

This science module refers to the national curriculum that was in effect for the eighth grade students assessed in TIMSS 2015—the curriculum that covers science instruction at the eighth grade of formal schooling for the majority of students. If you do not have a national curriculum, please summarize for your state or provincial curricula.

S1. Does your country have a national curriculum that covers science instruction at the eighth grade of formal schooling?

Check **one** circle only.

- Yes
- No

If Yes...

Comments:

If No...

What is the highest level of decision-making authority (e.g., state or province) that provides a curriculum that covers science instruction at the eighth grade of formal schooling?

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TIMSS 2015 Curriculum Questionnaire – Eighth Grade - About the Eighth Grade Science Curriculum

SC802A

S2. A. In what year was the 2014/2015 science curriculum introduced?

Comments:

SC802AT

SC802B

B. Is the science curriculum currently being revised?

Check one circle only.

- Yes
- No

SC802BTA

If Yes...

Please explain:

SC802BTB

If No...

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TIMSS 2015 Curriculum Questionnaire – Eighth Grade - About the Eighth Grade Science Curriculum

SC803TA

S3. For the middle/lower secondary school science curriculum, what is the grade structure?

Examples: "Grades 1-8"; "Grades 4-8"; "Grades 6-8"; "Grades 7-9."

Comments:

SC803TB

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TIMSS 2015 Curriculum Questionnaire – Eighth Grade - Curriculum Specifications

Curriculum Specifications

This science module refers to the national curriculum that was in effect for the eighth grade students assessed in TIMSS 2015—the curriculum that covers science instruction at the eighth grade of formal schooling for the majority of students. If you do not have a national curriculum, please summarize for your state or provincial curricula.

S4. What does the science curriculum prescribe?

Check one circle for each line.

	Yes	No
a) Goals and objectives	<input type="radio"/>	<input type="radio"/>
b) Instructional processes or methods	<input type="radio"/>	<input type="radio"/>
c) Materials (e.g., textbooks, instructional materials)	<input type="radio"/>	<input type="radio"/>
d) Assessment methods/activities	<input type="radio"/>	<input type="radio"/>
e) Other Please specify below:	<input type="radio"/>	<input type="radio"/>

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TIMSS 2015 Curriculum Questionnaire – Eighth Grade - Curriculum Specifications

SC805

S5. Does the curriculum or any other official document prescribe the percentage of total instructional time to be devoted to science instruction at the eighth grade of formal schooling?

Check *one circle only*.

- Yes
- No

SC805TA

If Yes...
Please specify the percentage:

Comments:

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TIMSS 2015 Curriculum Questionnaire – Eighth Grade - Curriculum Specifications

S6. How is the science curriculum implementation evaluated?

Check one circle for each line.

	Yes	No
a) Visits by inspectors	<input type="radio"/>	<input type="radio"/>
b) Research programs	<input type="radio"/>	<input type="radio"/>
c) School self-evaluation	<input type="radio"/>	<input type="radio"/>
d) National or regional examinations	<input type="radio"/>	<input type="radio"/>
e) Other	<input type="radio"/>	<input type="radio"/>

Please specify below:

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TIMSS 2015 Curriculum Questionnaire – Eighth Grade - Instructional Materials and Use of Technology

Instructional Materials and Use of Technology

This science module refers to the national curriculum that was in effect for the eighth grade students assessed in TIMSS 2015—the curriculum that covers science instruction at the eighth grade of formal schooling for the majority of students. If you do not have a national curriculum, please summarize for your state or provincial curricula.

SC807A

S7. A. Is there a process for approving the science instructional materials?

Check **one** circle only.

- Yes
- No

SC807AT

If Yes...

Please describe the process, and what materials (e.g., textbooks, workbooks, online materials) must be approved through this process:

SC807B

B. Does the national curriculum contain statements/policies about the use of technology (e.g., computers, tablets, calculators) in grade 8 science instruction?

Check **one** circle only.

- Yes
- No

SC807BT

If Yes...

What are the statements/policies?

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TIMSS 2015 Curriculum Questionnaire – Eighth Grade - Eighth Grade Science Topics Covered

Eighth Grade Science Topics Covered

This science module refers to the national curriculum that was in effect for the eighth grade students assessed in TIMSS 2015—the curriculum that covers science instruction at the eighth grade of formal schooling for the majority of students. If you do not have a national curriculum, please summarize for your state or provincial curricula.

S8. (i) According to the national science curriculum, what proportion of grade 8 students should have been taught each of the following topics or skills by the end of grade 8?

Be sure to include curriculum expectations for all grades up to and including grade 8. Grades represent years of formal schooling. For example, if “Year 9” in your country corresponds to the eighth year of formal schooling, please choose grade 8.

(ii) Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught?

If there are not any specifications to this detail, please indicate national expectations to the best of your ability. If part of a topic does not apply [e.g., energy flow in part A topic (f)], please explain in the comment field.

	(i) Proportion of grade 8 students expected to be taught topic			(ii) Grade(s) topic is expected to be taught preprimary (PP) through the end of upper secondary (G12)														
	All or almost all students	Only the more able students	Not included in the curriculum through grade 8	PP	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G11		G12	
	<i>Check one circle for each line.</i>			<i>Check the corresponding grade(s) for each topic</i>														
A. Biology																		
SC808AA	a) Differences among major taxonomic groups of organisms (plants, animals, fungi, mammals, birds, reptiles, fish, amphibians)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SC808AAP-12
SC808AB	b) Major organs and organ systems in humans and other organisms (structure/function, life processes that maintain stable bodily conditions)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SC808ABP-12
SC808AC	c) Cells, their structure and functions, including respiration and photosynthesis as cellular processes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SC808ACP-12
SC808AD	d) Life cycles, sexual reproduction, and heredity (passing on of traits, inherited versus acquired/learned characteristics)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SC808ADP-12
SC808AE	e) Role of variation and adaptation in survival/extinction of species in a changing environment (including fossil evidence for changes in life on Earth over time)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SC808AEP-12
SC808AF	f) Interdependence of populations of organisms in an ecosystem (e.g., energy flow, food webs, competition, predation) and factors affecting population size in an ecosystem	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SC808AFP-12
SC808AG	g) Human health (causes of infectious diseases, methods of infection, prevention, immunity) and the importance of diet and exercise in maintaining health	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SC808AGP-12

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S8. (continued)

(i) According to the national science curriculum, what proportion of grade 8 students should have been taught each of the following topics or skills by the end of grade 8?

Be sure to include curriculum expectations for all grades up to and including grade 8. Grades represent years of formal schooling. For example, if "Year 9" in your country corresponds to the eighth year of formal schooling, please choose grade 8.

(ii) Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught?

If there are not any specifications to this detail, please indicate national expectations to the best of your ability. If part of a topic does not apply [e.g., energy flow in part A topic (f)], please explain in the comment field.

SC808BA

SC808BB

SC808BC

SC808BD

SC808BE

SC808BF

SC808BT

	(i) Proportion of grade 8 students expected to be taught topic			(ii) Grade(s) topic is expected to be taught preprimary (PP) through the end of upper secondary (G12)												
	Check one circle for each line.			Check the corresponding grade(s) for each topic												
	All or almost all students	Only the more able students	Not included in the curriculum through grade 8	PP	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G11	G12
B. Chemistry																
a) Classification, composition, and particulate structure of matter (elements, compounds, mixtures, molecules, atoms, protons, neutrons, electrons)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Physical and chemical properties of matter	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Mixtures and solutions (solvent, solute, concentration/dilution, effect of temperature on solubility)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Properties and uses of common acids and bases	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Chemical change (transformation of reactants, evidence of chemical change, conservation of matter, common oxidation reactions – combustion, rusting, tarnishing)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) The role of electrons in chemical bonds	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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S8. (continued)

(i) According to the national science curriculum, what proportion of grade 8 students should have been taught each of the following topics or skills by the end of grade 8?

Be sure to include curriculum expectations for all grades up to and including grade 8. Grades represent years of formal schooling. For example, if "Year 9" in your country corresponds to the eighth year of formal schooling, please choose grade 8.

(ii) Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught?

If there are not any specifications to this detail, please indicate national expectations to the best of your ability. If part of a topic does not apply [e.g., energy flow in part A topic (f)], please explain in the comment field.

SC808DA

SC808DB

SC808DC

SC808DD

SC808DT

	(i) Proportion of grade 8 students expected to be taught topic			(ii) Grade(s) topic is expected to be taught preprimary (PP) through the end of upper secondary (G12)												
	All or almost all students	Only the more able students	Not included in the curriculum through grade 8	PP	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G11	G12
D. Earth Science	<i>Check one circle for each line.</i>															
a) Earth's structure and physical features (Earth's crust, mantle, and core; composition and relative distribution of water, and composition of air)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Earth's processes, cycles, and history (rock cycle; water cycle; weather versus climate; major geological events; formation of fossils and fossil fuels)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Earth's resources, their use and conservation (e.g., renewable/nonrenewable resources, human use of land/soil, water resources)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Earth in the solar system and the universe (phenomena on Earth - day/night, tides, phases of moon, eclipses, seasons; physical features of Earth compared to other bodies)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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SC808DCP-12

SC808DDP-12

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