

TRENDS IN INTERNATIONAL MATHEMATICS AND SCIENCE STUDY

TIMSS

TIMSS 2019 User Guide for the International Database

SUPPLEMENT 1

International Versions of the TIMSS 2019
Context Questionnaires



TIMSS & PIRLS
International Study Center
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SUPPLEMENT 1

International Versions of the TIMSS 2019 Context Questionnaires

Overview

The TIMSS 2019 International Database includes data for all questionnaires administered as part of the TIMSS 2019 assessment. This supplement contains the international versions of the TIMSS 2019 context questionnaires in the following sections:

Section 1: Grade 4 Context Questionnaires

- Section 1.1: Student Questionnaire
- Section 1.2: Student Questionnaire—eTIMSS Supplement
- Section 1.3: Home Questionnaire (Early Learning Survey)
- Section 1.4: Teacher Questionnaire
- Section 1.5: School Questionnaire
- Section 1.6: Curriculum Questionnaire

Section 2: Grade 8 Context Questionnaires

- Section 2.1: Student Questionnaire—General/Integrated Science Version
- Section 2.2: Student Questionnaire—Separate Science Version
- Section 2.3: Student Questionnaire—eTIMSS Supplement
- Section 2.4: Teacher Questionnaire—Mathematics
- Section 2.5: Teacher Questionnaire—Science
- Section 2.6: School Questionnaire
- Section 2.7: Curriculum Questionnaire

Each section contains an exhibit that lists detailed information for each question, followed by the international version of the questionnaire with variable names labeled in the margin. Exhibits 1.1 through 1.6 list the questions for each of the fourth grade TIMSS 2019 context questionnaires, and Exhibits 2.1 through 2.7 list the questions for each of the grade 8 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 2015.

The TIMSS 2019 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](#).

The TIMSS 2019 International Database also includes data for derived variables used to report context data in the [TIMSS 2019 International Results in Mathematics and Science](#) report. Procedures for deriving these variables are described in [Supplement 3](#).



SECTION 1.1: STUDENT QUESTIONNAIRE GRADE 4

TIMSS 2019 USER GUIDE FOR THE
INTERNATIONAL DATABASE

Exhibit 1.1: International Context Variables for the TIMSS 2019 Student Questionnaire (Grade 4)

| TIMSS 2019 Question Number | TIMSS 2019 Variable Name | TIMSS 2019 Variable Description | TIMSS 2015 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 | |
| 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 | ASBG05A, ASBG05B | Modified wording in 2019 |
| SQG-05b | ASBG05B | Do you have any of these things at your home? Study desk/table for your use | ASBG05C | |
| SQG-05c | ASBG05C | Do you have any of these things at your home? Your own room | ASBG05D | |
| SQG-05d | ASBG05D | Do you have any of these things at your home? Internet connection | ASBG05E | |
| SQG-05e | ASBG05E | Do you have any of these things at your home? Your own mobile phone | ASBG05F | |
| SQG-05f | ASBG05F | Do you have any of these things at your home? <country-specific indicator of wealth> | ASBG05H | |
| SQG-05g | ASBG05G | Do you have any of these things at your home? <country-specific indicator of wealth> | ASBG05I | |
| SQG-05h | ASBG05H | Do you have any of these things at your home? <country-specific indicator of wealth> | ASBG05J | |
| SQG-05i | ASBG05I | Do you have any of these things at your home? <country-specific indicator of wealth> | ASBG05K | |
| SQG-06A | ASBG06A | Were your <parents/guardians> born in <country>? <Parent/Guardian A> | ASBG06A | Modified wording and response options in 2019 |
| SQG-06B | ASBG06B | Were your <parents/guardians> born in <country>? <Parent/Guardian B> | ASBG06B | Modified wording and response options in 2019 |
| SQG-07 | ASBG07 | Were you born in <country>? | ASBG07 | |
| SQG-08 | ASBG08 | About how often are you absent from school? | ASBG08 | Modified response options in 2019 |
| SQG-09a | ASBG09A | How often do you feel this way when you arrive at school? I feel tired | | |
| SQG-09b | ASBG09B | How often do you feel this way when you arrive at school? I feel hungry | | |
| SQG-10a | ASBG10A | What do you think about your school? Tell how much you agree with these statements. I like being in school | ASBG11A | |
| SQG-10b | ASBG10B | What do you think about your school? Tell how much you agree with these statements. I feel safe when I am at school | ASBG11B | |
| SQG-10c | ASBG10C | What do you think about your school? Tell how much you agree with these statements. I feel like I belong at this school | ASBG11C | |
| SQG-10d | ASBG10D | What do you think about your school? Tell how much you agree with these statements. Teachers at my school are fair to me | ASBG11E | |
| SQG-10e | ASBG10E | What do you think about your school? Tell how much you agree with these statements. I am proud to go to this school | ASBG11F | |
| SQG-11a | ASBG11A | 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? Made fun of me or called me names | ASBG12A | |
| SQG-11b | ASBG11B | 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? Left me out of their games or activities | ASBG12B | |

Exhibit 1.1: International Context Variables for the TIMSS 2019 Student Questionnaire (Grade 4)

| TIMSS 2019 Question Number | TIMSS 2019 Variable Name | TIMSS 2019 Variable Description | TIMSS 2015 Variable Name | Notes |
|----------------------------|--------------------------|--|--------------------------|-------|
| SQG-11c | ASBG11C | 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? Spread lies about me | ASBG12C | |
| SQG-11d | ASBG11D | 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? Stole something from me | ASBG12D | |
| SQG-11e | ASBG11E | 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? Damaged something of mine on purpose | | |
| SQG-11f | ASBG11F | 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? Hit or hurt me | ASBG12E | |
| SQG-11g | ASBG11G | 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? Made me do things I didn't want to do | ASBG12F | |
| SQG-11h | ASBG11H | 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? Sent me nasty or hurtful messages online | | |
| SQG-11i | ASBG11I | 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? Shared nasty or hurtful things about me online | | |
| SQG-11j | ASBG11J | 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? Shared embarrassing photos of me online | | |
| SQG-11k | ASBG11K | 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? Threatened me | ASBG12H | |
| SQMS-01 | ASBM01 | In mathematics lessons, how often do you work problems on your own? | | |
| SQMS-02a | ASBM02A | How much do you agree with these statements about learning mathematics? I enjoy learning mathematics | ASBM01A | |
| SQMS-02b | ASBM02B | How much do you agree with these statements about learning mathematics? I wish I did not have to study mathematics | ASBM01B | |
| SQMS-02c | ASBM02C | How much do you agree with these statements about learning mathematics? Mathematics is boring | ASBM01C | |
| SQMS-02d | ASBM02D | How much do you agree with these statements about learning mathematics? I learn many interesting things in mathematics | ASBM01D | |
| SQMS-02e | ASBM02E | How much do you agree with these statements about learning mathematics? I like mathematics | ASBM01E | |
| SQMS-02f | ASBM02F | How much do you agree with these statements about learning mathematics? I like any schoolwork that involves numbers | ASBM01F | |
| SQMS-02g | ASBM02G | How much do you agree with these statements about learning mathematics? I like to solve mathematics problems | ASBM01G | |
| SQMS-02h | ASBM02H | How much do you agree with these statements about learning mathematics? I look forward to mathematics lessons | ASBM01H | |
| SQMS-02i | ASBM02I | How much do you agree with these statements about learning mathematics? Mathematics is one of my favorite subjects | ASBM01I | |
| SQMS-03a | ASBM03A | How much do you agree with these statements about your mathematics lessons? I know what my teacher expects me to do | ASBM02A | |

Exhibit 1.1: International Context Variables for the TIMSS 2019 Student Questionnaire (Grade 4)

| TIMSS 2019 Question Number | TIMSS 2019 Variable Name | TIMSS 2019 Variable Description | TIMSS 2015 Variable Name | Notes |
|---|---|--|---|--------------|
| SQMS-03b | ASBM03B | How much do you agree with these statements about your mathematics lessons? My teacher is easy to understand | ASBM02B | |
| SQMS-03c | ASBM03C | How much do you agree with these statements about your mathematics lessons? My teacher has clear answers to my questions | ASBM02E | |
| SQMS-03d | ASBM03D | How much do you agree with these statements about your mathematics lessons? My teacher is good at explaining mathematics | ASBM02F | |
| SQMS-03e | ASBM03E | How much do you agree with these statements about your mathematics lessons? My teacher does a variety of things to help us learn | ASBM02H | |
| SQMS-03f | ASBM03F | How much do you agree with these statements about your mathematics lessons? My teacher explains a topic again when we don't understand | | |
| SQMS-04a | ASBM04A | How often do these things happen in your mathematics lessons? Students don't listen to what the teacher says | | |
| SQMS-04b | ASBM04B | How often do these things happen in your mathematics lessons? There is disruptive noise | | |
| SQMS-04c | ASBM04C | How often do these things happen in your mathematics lessons? It is too disorderly for students to work well | | |
| SQMS-04d | ASBM04D | How often do these things happen in your mathematics lessons? My teacher has to wait a long time for students to quiet down | | |
| SQMS-04e | ASBM04E | How often do these things happen in your mathematics lessons? Students interrupt the teacher | | |
| SQMS-04f | ASBM04F | How often do these things happen in your mathematics lessons? My teacher has to keep telling us to follow the classroom rules | | |
| SQMS-05a | ASBM05A | How much do you agree with these statements about mathematics? I usually do well in mathematics | ASBM03A | |
| SQMS-05b | ASBM05B | How much do you agree with these statements about mathematics? Mathematics is harder for me than for many of my classmates | ASBM03B | |
| SQMS-05c | ASBM05C | How much do you agree with these statements about mathematics? I am just not good at mathematics | ASBM03C | |
| SQMS-05d | ASBM05D | How much do you agree with these statements about mathematics? I learn things quickly in mathematics | ASBM03D | |
| SQMS-05e | ASBM05E | How much do you agree with these statements about mathematics? Mathematics makes me nervous | ASBM03E | |
| SQMS-05f | ASBM05F | How much do you agree with these statements about mathematics? I am good at working out difficult mathematics problems | ASBM03F | |
| SQMS-05g | ASBM05G | How much do you agree with these statements about mathematics? My teacher tells me I am good at mathematics | ASBM03G | |
| SQMS-05h | ASBM05H | How much do you agree with these statements about mathematics? Mathematics is harder for me than any other subject | ASBM03H | |
| SQMS-05i | ASBM05I | How much do you agree with these statements about mathematics? Mathematics makes me confused | ASBM03I | |
| SQMS-06 | ASBS06 | In science lessons, how often does your teacher ask you to conduct science experiments? | | |
| SQMS-07a | ASBS07A | How much do you agree with these statements about learning science? I enjoy learning science | ASBS04A | |
| SQMS-07b | ASBS07B | How much do you agree with these statements about learning science? I wish I did not have to study science | ASBS04B | |
| SQMS-07c | ASBS07C | How much do you agree with these statements about learning science? Science is boring | ASBS04C | |

Exhibit 1.1: International Context Variables for the TIMSS 2019 Student Questionnaire (Grade 4)

| TIMSS 2019 Question Number | TIMSS 2019 Variable Name | TIMSS 2019 Variable Description | TIMSS 2015 Variable Name | Notes |
|---|---|--|---|--------------|
| SQMS-07d | ASBS07D | How much do you agree with these statements about learning science? I learn many interesting things in science | ASBS04D | |
| SQMS-07e | ASBS07E | How much do you agree with these statements about learning science? I like science | ASBS04E | |
| SQMS-07f | ASBS07F | How much do you agree with these statements about learning science? I look forward to learning science in school | ASBS04F | |
| SQMS-07g | ASBS07G | How much do you agree with these statements about learning science? Science teaches me how things in the world work | ASBS04G | |
| SQMS-07h | ASBS07H | How much do you agree with these statements about learning science? I like to do science experiments | ASBS04H | |
| SQMS-07i | ASBS07I | How much do you agree with these statements about learning science? Science is one of my favorite subjects | ASBS04I | |
| SQMS-08a | ASBS08A | How much do you agree with these statements about your science lessons? I know what my teacher expects me to do | ASBS05A | |
| SQMS-08b | ASBS08B | How much do you agree with these statements about your science lessons? My teacher is easy to understand | ASBS05B | |
| SQMS-08c | ASBS08C | How much do you agree with these statements about your science lessons? My teacher has clear answers to my questions | ASBS05E | |
| SQMS-08d | ASBS08D | How much do you agree with these statements about your science lessons? My teacher is good at explaining science | ASBS05F | |
| SQMS-08e | ASBS08E | How much do you agree with these statements about your science lessons? My teacher does a variety of things to help us learn | ASBS05H | |
| SQMS-08f | ASBS08F | How much do you agree with these statements about your science lessons? My teacher explains a topic again when we don't understand | | |
| SQMS-09a | ASBS09A | How much do you agree with these statements about science? I usually do well in science | ASBS06A | |
| SQMS-09b | ASBS09B | How much do you agree with these statements about science? Science is harder for me than for many of my classmates | ASBS06B | |
| SQMS-09c | ASBS09C | How much do you agree with these statements about science? I am just not good at science | ASBS06C | |
| SQMS-09d | ASBS09D | How much do you agree with these statements about science? I learn things quickly in science | ASBS06D | |
| SQMS-09e | ASBS09E | How much do you agree with these statements about science? My teacher tells me I am good at science | ASBS06E | |
| SQMS-09f | ASBS09F | How much do you agree with these statements about science? Science is harder for me than any other subject | ASBS06F | |
| SQMS-09g | ASBS09G | How much do you agree with these statements about science? Science makes me confused | ASBS06G | |



Identification Label

TRENDS IN INTERNATIONAL MATHEMATICS AND SCIENCE STUDY

Student Questionnaire

<Grade 4>

<TIMSS National Research Center Name>
<Address>

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International Study Center
Lynch School of Education
BOSTON COLLEGE

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.

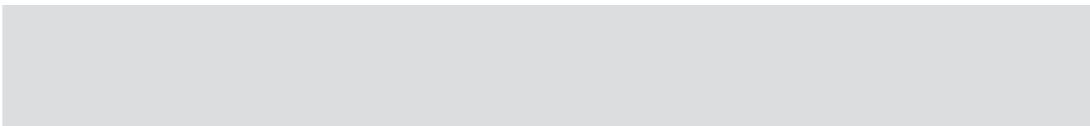
| Every day or almost every day | Once or twice a week | Once or twice a month | Never or almost never |
|-------------------------------|----------------------|-----------------------|-----------------------|
|-------------------------------|----------------------|-----------------------|-----------------------|

↓ ↓ ↓ ↓

a) I talk with my friends -----

b) I play sports -----

c) I ride a skateboard -----



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 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| b) I like eating ice cream | <input 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 type="radio"/> | <input type="radio"/> |
| d) I enjoy doing chores | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input 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

G1

Are you a girl or a boy?

ASBG01

Fill one circle only.

Girl --

Boy --

G2

When were you born?

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

ASBG02A

a) Month

b) Year

ASBG02B

January --

2006 --

February --

2007 --

March --

2008 --

April --

2009 --

May --

2010 --

June --

2011 --

July --

2012 --

August --

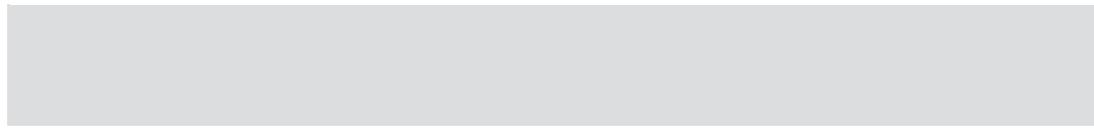
Other --

September --

October --

November --

December --



G3

How often do you speak <language of test> at home?

ASBG03

Fill one circle only.

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

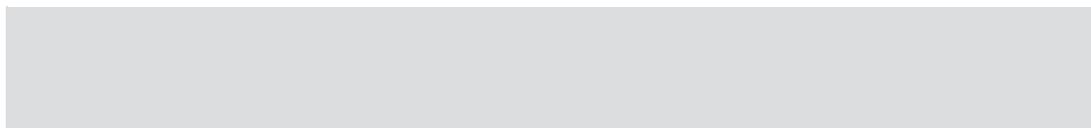
I almost always speak
<language of test> at home --

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

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

ASBG04

Fill one circle only.

None or very few (0–10 books) --

This shows 10 books



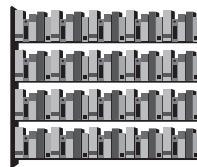
Enough to fill one shelf (11–25 books) --

This shows 25 books



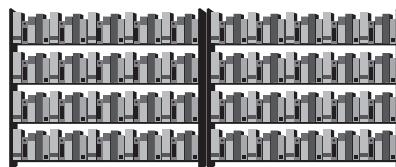
Enough to fill one bookcase
(26–100 books) --

This shows 100 books



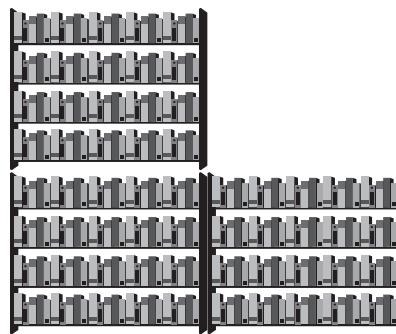
Enough to fill two bookcases
(101–200 books) --

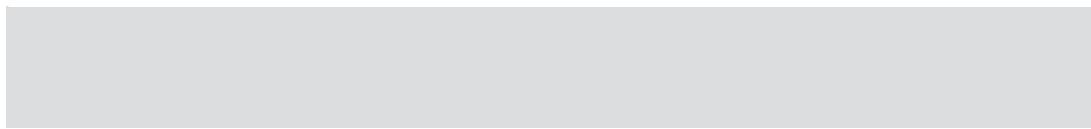
This shows 200 books



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

This shows more than 200 books



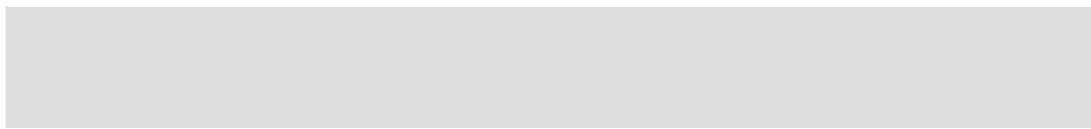


G5

Do you have any of these things at your home?

Fill **one** circle for each line.

- | | | Yes | No |
|---------|---|-----------------------|-----------------------|
| ASBG05A | a) A computer or tablet ----- | <input type="radio"/> | <input type="radio"/> |
| ASBG05B | b) Study desk/table for your use ----- | <input type="radio"/> | <input type="radio"/> |
| ASBG05C | c) Your own room ----- | <input type="radio"/> | <input type="radio"/> |
| ASBG05D | d) Internet connection ----- | <input type="radio"/> | <input type="radio"/> |
| ASBG05E | e) Your own mobile phone ----- | <input type="radio"/> | <input type="radio"/> |
| ASBG05F | f) <country-specific indicator of wealth> ----- | <input type="radio"/> | <input type="radio"/> |
| ASBG05G | g) <country-specific indicator of wealth> ----- | <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"/> |



The following question is about your <Parent/Guardian A> and <Parent/Guardian B>. <If you have only one parent/guardian, answer for Parent/Guardian A. If you have two parents/guardians, choose one for Parent/Guardian A and the other for Parent/Guardian B.>

G6

Were your <parents/guardians> born in <country>?

A. <Parent/Guardian A>

ASBG06A

Fill one circle only.

Yes --

No --

I don't know --

Not applicable --

B. <Parent/Guardian B>

ASBG06B

Fill one circle only.

Yes --

No --

I don't know --

Not applicable --

G7

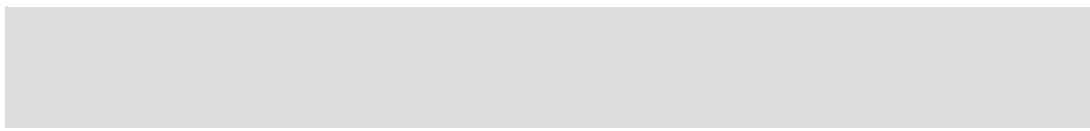
Were you born in <country>?

ASBG07

Fill one circle only.

Yes --

No --



G8

About how often are you absent from school?

ASBG08

Fill **one** circle only.

Once a week --

Once every two weeks --

Once a month --

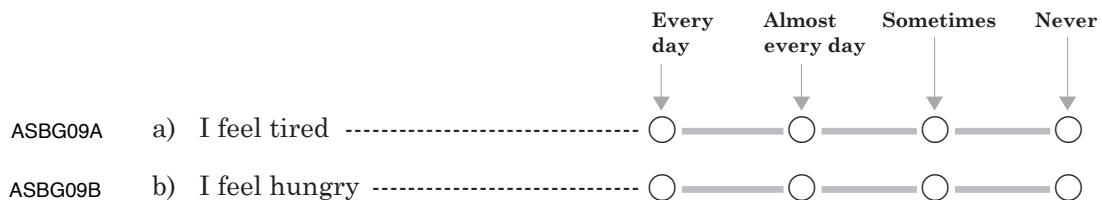
Once every two months --

Never or almost never --

G9

How often do you feel this way when you arrive at school?

Fill **one** circle for each line.



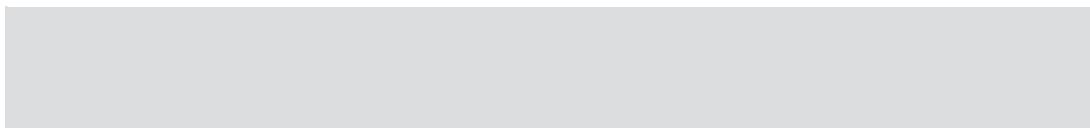
Your School

G10

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 |
|---------|--|-----------------------|-----------------------|-----------------------|-----------------------|
| ASBG10A | a) I like being in school ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ASBG10B | b) I feel safe when I am at school ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ASBG10C | c) I feel like I belong at this school ---- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ASBG10D | d) Teachers at my school are fair to me ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ASBG10E | e) I am proud to go to this school ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |



G11

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 |
|---------|--|----------------------------|-----------------------------|--------------------------|-----------------------|
| ASBG11A | a) Made fun of me or called me names ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ASBG11B | b) Left me out of their games or activities ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ASBG11C | c) Spread lies about me ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ASBG11D | d) Stole something from me ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ASBG11E | e) Damaged something of mine on purpose ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ASBG11F | f) Hit or hurt me (<i>e.g., shoving, hitting, kicking</i>) ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ASBG11G | g) Made me do things I didn't want to do ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ASBG11H | h) Sent me nasty or hurtful messages online ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ASBG11I | i) Shared nasty or hurtful things about me online ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ASBG11J | j) Shared embarrassing photos of me online ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ASBG11K | k) Threatened me ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Mathematics in school

MS1

In mathematics lessons, how often do you work problems
on your own?

ASBM01

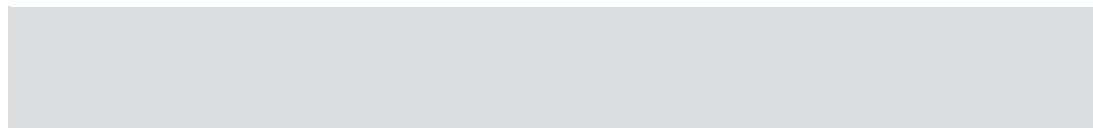
Fill one circle only.

Every or almost every lesson --

About half the lessons --

Some lessons --

Never --

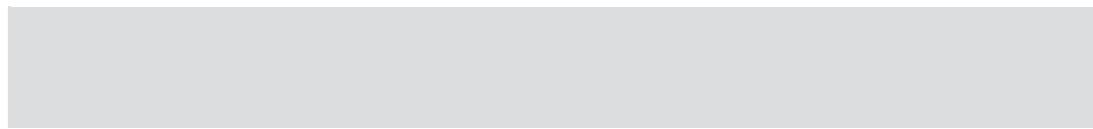


MS2

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 |
|---------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| ASBM02A | ----- <input type="radio"/> | ----- <input type="radio"/> | ----- <input type="radio"/> | ----- <input type="radio"/> |
| ASBM02B | ----- <input type="radio"/> | ----- <input type="radio"/> | ----- <input type="radio"/> | ----- <input type="radio"/> |
| ASBM02C | ----- <input type="radio"/> | ----- <input type="radio"/> | ----- <input type="radio"/> | ----- <input type="radio"/> |
| ASBM02D | ----- <input type="radio"/> | ----- <input type="radio"/> | ----- <input type="radio"/> | ----- <input type="radio"/> |
| ASBM02E | ----- <input type="radio"/> | ----- <input type="radio"/> | ----- <input type="radio"/> | ----- <input type="radio"/> |
| ASBM02F | ----- <input type="radio"/> | ----- <input type="radio"/> | ----- <input type="radio"/> | ----- <input type="radio"/> |
| ASBM02G | ----- <input type="radio"/> | ----- <input type="radio"/> | ----- <input type="radio"/> | ----- <input type="radio"/> |
| ASBM02H | ----- <input type="radio"/> | ----- <input type="radio"/> | ----- <input type="radio"/> | ----- <input type="radio"/> |
| ASBM02I | ----- <input type="radio"/> | ----- <input type="radio"/> | ----- <input type="radio"/> | ----- <input type="radio"/> |

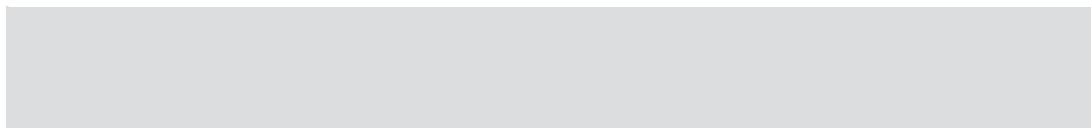


MS3

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 |
|---------|---|-----------------------|-----------------------|-----------------------|-----------------------|
| ASBM03A | a) I know what my teacher expects me to do ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ASBM03B | b) My teacher is easy to understand -- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ASBM03C | c) My teacher has clear answers to my questions ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ASBM03D | d) My teacher is good at explaining mathematics ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ASBM03E | e) My teacher does a variety of things to help us learn ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ASBM03F | f) My teacher explains a topic again when we don't understand ... | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

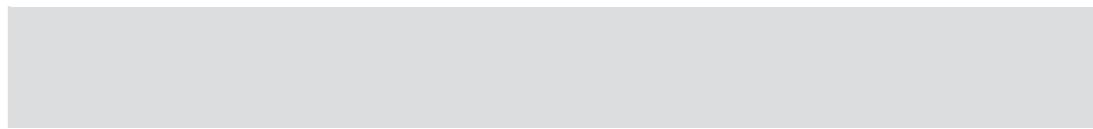


MS4

How often do these things happen in your mathematics lessons?

Fill one circle for each line.

| ASBM04A | a) Students don't listen to what the teacher says ----- | <input type="radio"/>  <input type="radio"/>  <input type="radio"/>  <input type="radio"/> | <input type="radio"/>  <input type="radio"/>  <input type="radio"/>  <input type="radio"/> |
|---------|--|---|--|
| ASBM04B | b) There is disruptive noise ----- | <input type="radio"/>  <input type="radio"/>  <input type="radio"/>  <input type="radio"/> | <input type="radio"/>  <input type="radio"/>  <input type="radio"/>  <input type="radio"/> |
| ASBM04C | c) It is too disorderly for students to work well ----- | <input type="radio"/>  <input type="radio"/>  <input type="radio"/>  <input type="radio"/> | <input type="radio"/>  <input type="radio"/>  <input type="radio"/>  <input type="radio"/> |
| ASBM04D | d) My teacher has to wait a long time for students to quiet down ----- | <input type="radio"/>  <input type="radio"/>  <input type="radio"/>  <input type="radio"/> | <input type="radio"/>  <input type="radio"/>  <input type="radio"/>  <input type="radio"/> |
| ASBM04E | e) Students interrupt the teacher ----- | <input type="radio"/>  <input type="radio"/>  <input type="radio"/>  <input type="radio"/> | <input type="radio"/>  <input type="radio"/>  <input type="radio"/>  <input type="radio"/> |
| ASBM04F | f) My teacher has to keep telling us to follow the classroom rules ----- | <input type="radio"/>  <input type="radio"/>  <input type="radio"/>  <input type="radio"/> | <input type="radio"/>  <input type="radio"/>  <input type="radio"/>  <input type="radio"/> |
| | | <input type="radio"/> Every or almost every lesson <input type="radio"/> About half the lessons <input type="radio"/> Some lessons <input type="radio"/> Never | |



MS5

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 |
|---------|---|-----------------------|-----------------------|-----------------------|-----------------------|
| ASBM05A | a) I usually do well in mathematics --- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ASBM05B | b) Mathematics is harder for me than for many of my classmates ---- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ASBM05C | c) I am just not good at mathematics - | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ASBM05D | d) I learn things quickly in mathematics ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ASBM05E | e) Mathematics makes me nervous--- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ASBM05F | f) I am good at working out difficult mathematics problems ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ASBM05G | g) My teacher tells me I am good at mathematics ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ASBM05H | h) Mathematics is harder for me than any other subject ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ASBM05I | i) Mathematics makes me confused--- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Science in school

MS6

In science lessons, how often does your teacher ask you to conduct science experiments?

ASBS06

Fill one circle only.

At least once a week --

Once or twice a month --

A few times a year --

Never --

<Grade 4> Student Questionnaire

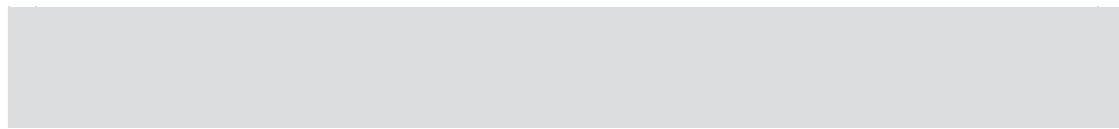
16

MS7

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 |
|---|-----------------------|-----------------------|-----------------------|-----------------------|
| ASBS07A a) I enjoy learning science ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ASBS07B b) I wish I did not have to study science ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ASBS07C c) Science is boring ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ASBS07D d) I learn many interesting things in science ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ASBS07E e) I like science ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ASBS07F f) I look forward to learning science in school ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ASBS07G g) Science teaches me how things in the world work ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ASBS07H h) I like to do science experiments ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ASBS07I i) Science is one of my favorite subjects ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |



MS8

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 |
|---------|---|-----------------------|-----------------------|-----------------------|-----------------------|
| ASBS08A | a) I know what my teacher expects me to do ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ASBS08B | b) My teacher is easy to understand -- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ASBS08C | c) My teacher has clear answers to my questions ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ASBS08D | d) My teacher is good at explaining science ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ASBS08E | e) My teacher does a variety of things to help us learn ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ASBS08F | f) My teacher explains a topic again when we don't understand ... | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

MS9

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 |
|---------|---|-----------------------|-----------------------|-----------------------|-----------------------|
| ASBS09A | a) I usually do well in science ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ASBS09B | b) Science is harder for me than for many of my classmates ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ASBS09C | c) I am just not good at science ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ASBS09D | d) I learn things quickly in science ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ASBS09E | e) My teacher tells me I am good at science ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ASBS09F | f) Science is harder for me than any other subject ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ASBS09G | g) Science makes me confused ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Thank You!

Thank you for filling out the questionnaire!



BOSTON
COLLEGE

timss.bc.edu

<Grade 4>



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International Association
for the Evaluation of
Educational Achievement



SECTION 1.2: STUDENT QUESTIONNAIRE — eTIMSS SUPPLEMENT GRADE 4

TIMSS 2019 USER GUIDE FOR THE
INTERNATIONAL DATABASE



TIMSS & PIRLS
International Study Center
Lynch School of Education
BOSTON COLLEGE

**Exhibit 1.2: International Context Variables for the TIMSS 2019 Student Questionnaire—eTIMSS Supplement
(Grade 4)**

| TIMSS 2019 Question Number | TIMSS 2019 Variable Name | TIMSS 2019 Variable Description |
|-------------------------------------|-----------------------------------|---|
| SQE-01A | ASBE01A | Did you like that this test was on a computer or tablet? |
| SQE-01Ba | ASBE01BA | Did you have any of these difficulties? It was hard to type |
| SQE-01Bb | ASBE01BB | Did you have any of these difficulties? I had trouble using the number pad |
| SQE-01Bc | ASBE01BC | Did you have any of these difficulties? Objects were hard to drag |
| SQE-01Bd | ASBE01BD | Did you have any of these difficulties? There was no good place to work out my answers |
| SQE-01Be | ASBE01BE | Did you have any of these difficulties? The computer or tablet was slow |
| SQE-01Bf | ASBE01BF | Did you have any of these difficulties? I had to start my test over because of a computer or tablet problem |
| SQE-02a | ASBE02A | At school this year, how often did you use a computer or tablet to do each of the following? Work on a school assignment such as a paper, report, or presentation |
| SQE-02b | ASBE02B | At school this year, how often did you use a computer or tablet to do each of the following? Mathematics schoolwork |
| SQE-02c | ASBE02C | At school this year, how often did you use a computer or tablet to do each of the following? Science schoolwork |
| SQE-02d | ASBE02D | At school this year, how often did you use a computer or tablet to do each of the following? Take a test or quiz |
| SQE-03a | ASBE03A | How much do you agree with these statements? I am good at using a computer |
| SQE-03b | ASBE03B | How much do you agree with these statements? I am good at typing |
| SQE-03c | ASBE03C | How much do you agree with these statements? I can use a touchscreen on a computer, tablet, or smartphone |
| SQE-03d | ASBE03D | How much do you agree with these statements? It is easy for me to find information on the Internet |
| SQE-03e | ASBE03E | How much do you agree with these statements? I can look up the meanings of words on the Internet |
| SQE-03f | ASBE03F | How much do you agree with these statements? I can write sentences and paragraphs using a computer |
| SQE-03g | ASBE03G | How much do you agree with these statements? I can edit text on a computer |

ASBE01A

ASBE01BA

ASBE01BB

ASBE01BC

ASBE01BD

ASBE01BE

ASBE01BF

The image shows a smartphone displaying the eTIMSS Questionnaire. The screen has a light blue background with a dark blue vertical sidebar on the left. The sidebar contains the eTIMSS logo, the year '2019', a 'TIME LEFT' timer set at '0', and a vertical stack of numbered buttons from 1 to 4. The main content area is titled 'eTIMSS Questionnaire' and features a question 'A. Did you like that this test was on a computer or tablet?' followed by a list of four options with smiley face icons. Below this is another question 'B. Did you have any of these difficulties?' with a note to 'Click one circle for each row.' and a list of six items with 'Yes' and 'No' radio buttons.

eTIMSS Questionnaire

1

A. Did you like that this test was on a computer or tablet?

I liked it a lot

I liked it a little

I didn't like it very much

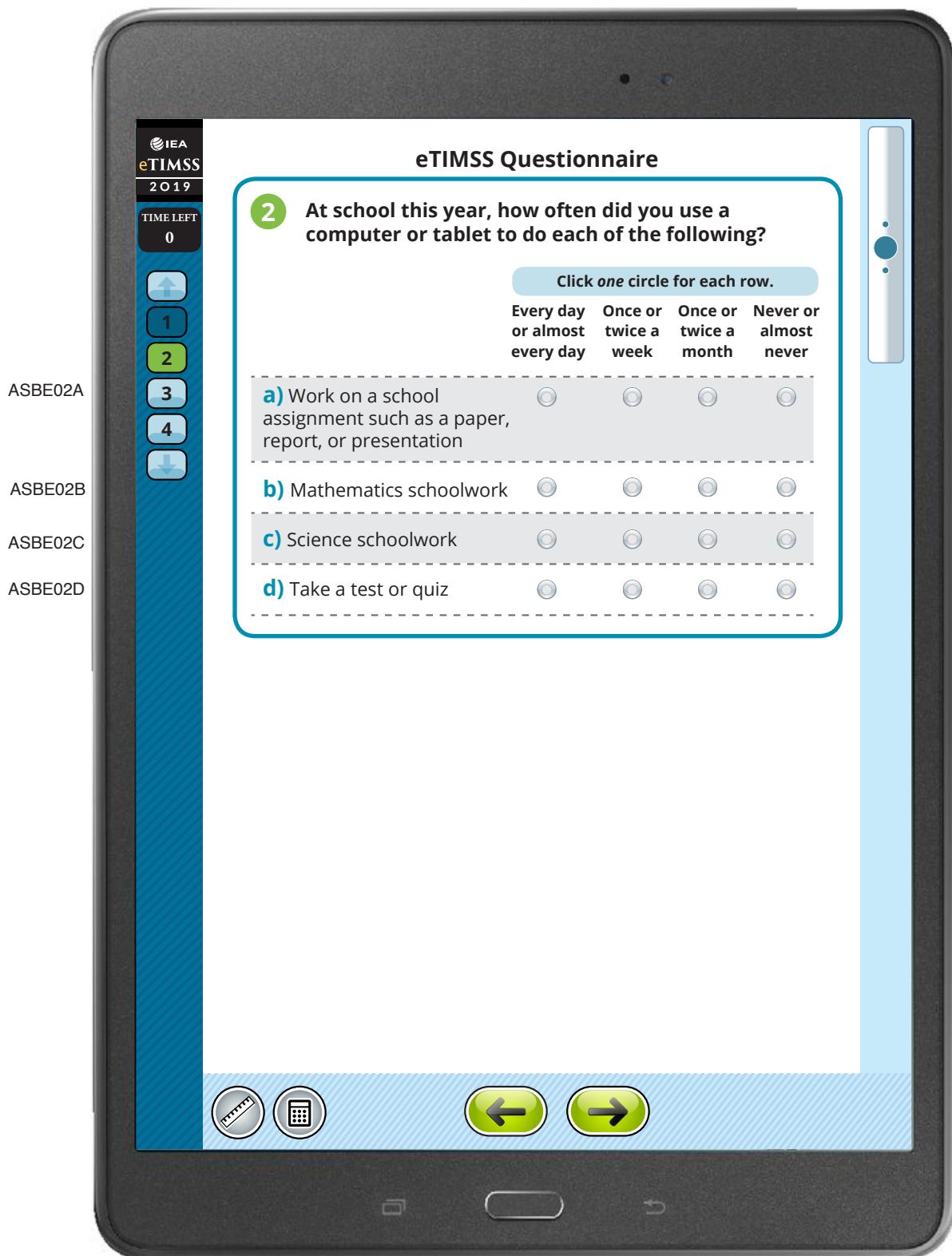
I didn't like it at all

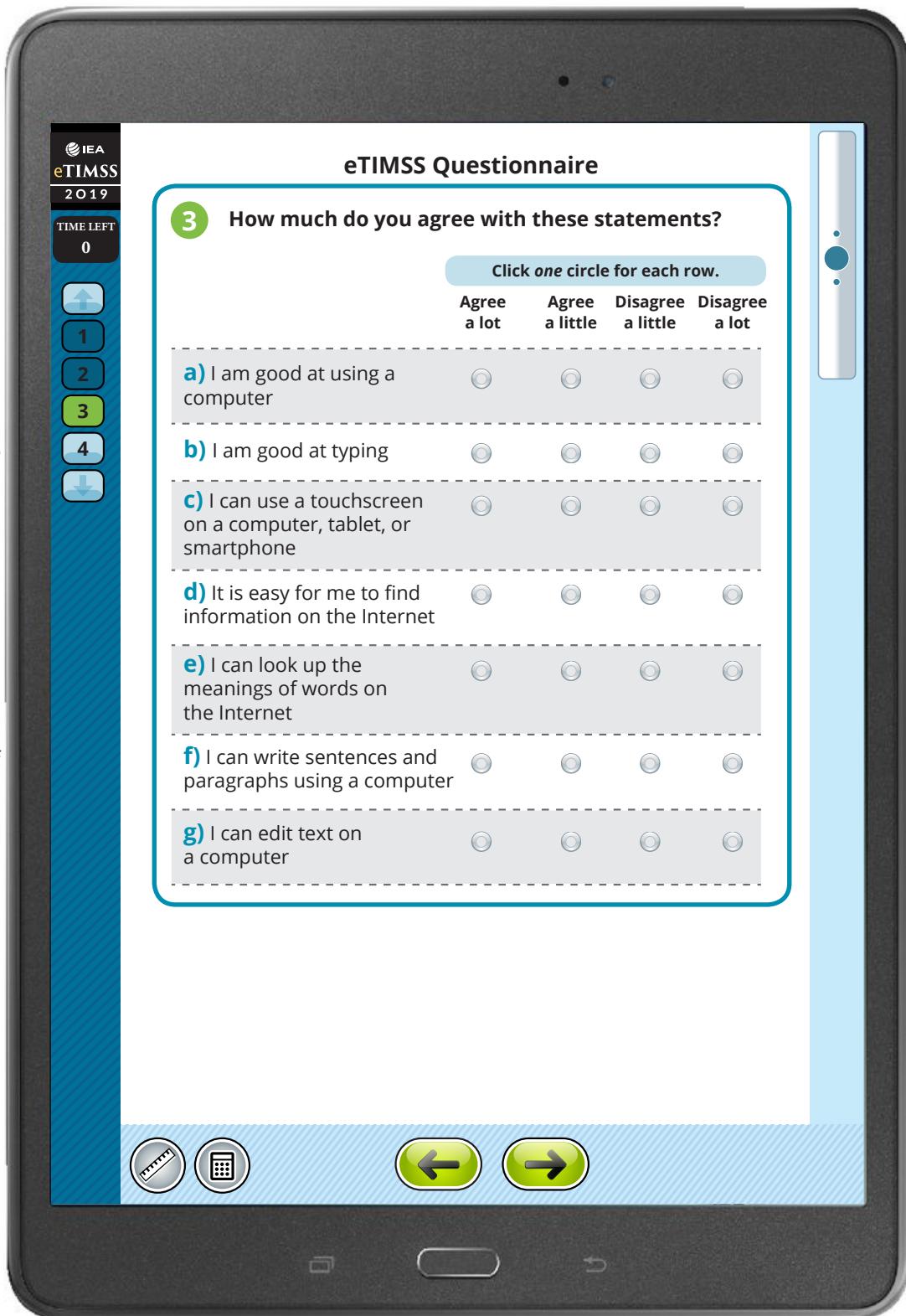
B. Did you have any of these difficulties?

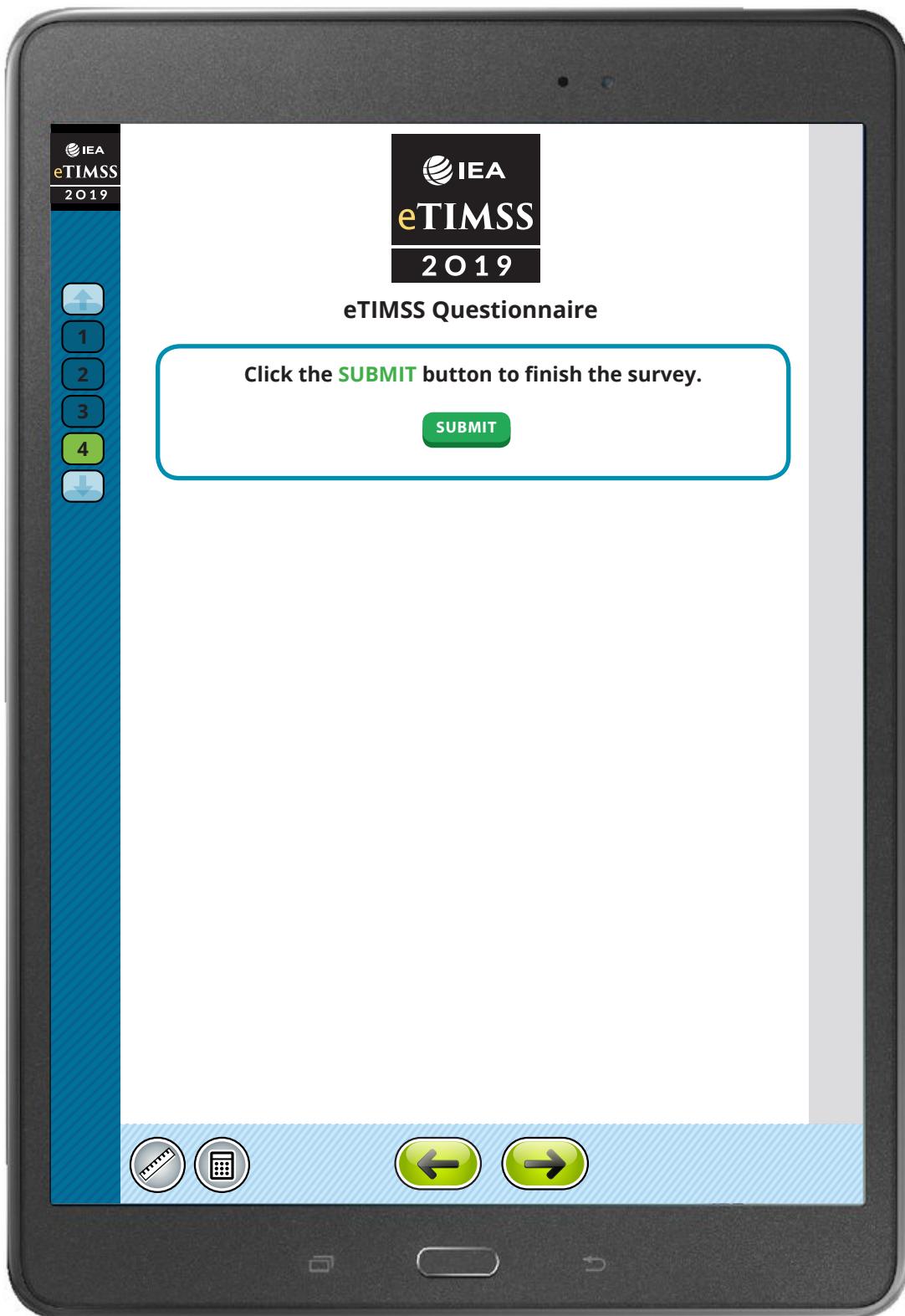
Click one circle for each row.

| | Yes | No |
|--|-----------------------|-----------------------|
| a) It was hard to type | <input type="radio"/> | <input type="radio"/> |
| b) I had trouble using the number pad | <input type="radio"/> | <input type="radio"/> |
| c) Objects were hard to drag | <input type="radio"/> | <input type="radio"/> |
| d) There was no good place to work out my answers | <input type="radio"/> | <input type="radio"/> |
| e) The computer or tablet was slow | <input type="radio"/> | <input type="radio"/> |
| f) I had to start my test over because of a computer or tablet problem | <input type="radio"/> | <input type="radio"/> |

Navigation icons at the bottom include a ruler, calculator, back arrow, forward arrow, and a refresh symbol.









SECTION 1.3:

HOME QUESTIONNAIRE

(EARLY LEARNING SURVEY)

GRADE 4

TIMSS 2019 USER GUIDE FOR THE
INTERNATIONAL DATABASE



TIMSS & PIRLS
International Study Center
Lynch School of Education
BOSTON COLLEGE

Exhibit 1.3: International Context Variables for the TIMSS 2019 Home Questionnaire (Grade 4)

| TIMSS 2019 Question Number | TIMSS 2019 Variable Name | TIMSS 2019 Variable Description | TIMSS 2015 Variable Name | Notes |
|---|---|---|---|--------------|
| HQ-01a | ASBH01A | 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-01b | ASBH01B | 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-01c | ASBH01C | 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-01d | ASBH01D | 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-01e | ASBH01E | 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-01f | ASBH01F | 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-01g | ASBH01G | 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-01h | ASBH01H | 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-01i | ASBH01I | 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-01j | ASBH01J | 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-01k | ASBH01K | 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-01l | ASBH01L | 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-01m | ASBH01M | 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-01n | ASBH01N | 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-01o | ASBH01O | 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 | |
| HQ-01p | ASBH01P | 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 | ASBH02P | |

Exhibit 1.3: International Context Variables for the TIMSS 2019 Home Questionnaire (Grade 4)

| TIMSS 2019 Question Number | TIMSS 2019 Variable Name | TIMSS 2019 Variable Description | TIMSS 2015 Variable Name | Notes |
|---|---|---|---|--------------------------|
| HQ-01q | ASBH01Q | 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? Draw shapes | | |
| HQ-01r | ASBH01R | 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? Measure or weigh things | | |
| HQ-02A | ASBH02A | Was your child born in <country>? | ASBH03A | Modified wording in 2019 |
| HQ-02B | ASBH02B | How old was your child when he/she came to <country>? | ASBH03B | Modified wording in 2019 |
| HQ-03a | ASBH03A | What language did your child speak before he/she began school? <language of test> | ASBH04A | |
| HQ-03b | ASBH03B | What language did your child speak before he/she began school? <country-specific> | ASBH04B | |
| HQ-03c | ASBH03C | What language did your child speak before he/she began school? <country-specific> | ASBH04C | |
| HQ-03d | ASBH03D | What language did your child speak before he/she began school? <country-specific> | ASBH04D | |
| HQ-03e | ASBH03E | What language did your child speak before he/she began school? <country-specific> | ASBH04E | |
| HQ-03f | ASBH03F | What language did your child speak before he/she began school? Other | ASBH04F | |
| HQ-04Aa | ASBH04AA | Did your child attend the following before <first grade>? Early childhood educational program or center for children under age 3 | ASBH05AA | Modified wording in 2019 |
| HQ-04Ab | ASBH04AB | Did your child attend the following before <first grade>? Pre-primary educational program for children age 3 or older, including <Kindergarten> | ASBH05AB | Modified wording in 2019 |
| HQ-04B | ASBH04B | Approximately, how long was your child in these programs altogether? | ASBH05B | |
| HQ-05 | ASBH05 | How old was your child when he/she began the <first grade> of primary/elementary school? | ASBH06 | |
| HQ-06a | ASBH06A | 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 | ASBH07A | |
| HQ-06b | ASBH06B | How well could your child do the following when he/she began the <first grade> of primary/elementary school? Read some words | ASBH07B | |
| HQ-06c | ASBH06C | How well could your child do the following when he/she began the <first grade> of primary/elementary school? Read sentences | ASBH07C | |
| HQ-06d | ASBH06D | How well could your child do the following when he/she began the <first grade> of primary/elementary school? Read a story | ASBH07D | |
| HQ-06e | ASBH06E | How well could your child do the following when he/she began the <first grade> of primary/elementary school? Write letters of the alphabet | ASBH07E | |
| HQ-06f | ASBH06F | How well could your child do the following when he/she began the <first grade> of primary/elementary school? Write his/her name | | |
| HQ-06g | ASBH06G | How well could your child do the following when he/she began the <first grade> of primary/elementary school? Write words other than his/her name | | |
| HQ-07a | ASBH07A | Could your child do the following when he/she began the <first grade> of primary/elementary school? Count by himself/herself | ASBH08A | |
| HQ-07b | ASBH07B | Could your child do the following when he/she began the <first grade> of primary/elementary school? Recognize written numbers | ASBH08B | |

Exhibit 1.3: International Context Variables for the TIMSS 2019 Home Questionnaire (Grade 4)

| TIMSS 2019 Question Number | TIMSS 2019 Variable Name | TIMSS 2019 Variable Description | TIMSS 2015 Variable Name | Notes |
|---|---|--|---|---|
| HQ-07c | ASBH07C | Could your child do the following when he/she began the <first grade> of primary/elementary school? Write numbers | ASBH08C | |
| HQ-07d | ASBH07D | Could your child do the following when he/she began the <first grade> of primary/elementary school? Do simple addition | ASBH08D | |
| HQ-07e | ASBH07E | Could your child do the following when he/she began the <first grade> of primary/elementary school? Do simple subtraction | ASBH08E | |
| HQ-08Aa | ASBH08AA | During the last 12 months, has your child attended extra lessons or tutoring not provided by the school in the following subjects? Mathematics | ASBH10AA | |
| HQ-08Ab | ASBH08AB | During the last 12 months, has your child attended extra lessons or tutoring not provided by the school in the following subjects? Science | ASBH10AB | |
| HQ-08Ba | ASBH08BA | For how many of the last 12 months has your child attended extra lessons or tutoring? Mathematics | ASBH10BA | |
| HQ-08Bb | ASBH08BB | For how many of the last 12 months has your child attended extra lessons or tutoring? Science | ASBH10BB | |
| HQ-09a | ASBH09A | What do you think of your child's school? My child's school does a good job including me in my child's education | ASBH11A | |
| HQ-09b | ASBH09B | What do you think of your child's school? My child's school provides a safe environment | ASBH11B | |
| HQ-09c | ASBH09C | What do you think of your child's school? My child's school cares about my child's progress in school | ASBH11C | |
| HQ-09d | ASBH09D | What do you think of your child's school? My child's school does a good job informing me of his/her progress | ASBH11D | |
| HQ-09e | ASBH09E | What do you think of your child's school? My child's school promotes high academic standards | ASBH11E | |
| HQ-09f | ASBH09F | 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 | ASBH11F | |
| HQ-09g | ASBH09G | 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 | ASBH11G | |
| HQ-09h | ASBH09H | 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 | ASBH11H | |
| HQ-10 | ASBH10 | About how many books are there in your home? (Do not count ebooks, magazines, newspapers, or children's books.) | ASBH13 | |
| HQ-11 | ASBH11 | About how many children's books are there in your home? (Do not count children's ebooks, magazines, or school books.) | ASBH14 | |
| HQ-12A | ASBH12A | Were the child's <parents/guardians> born in <country>? <Parent/Guardian A> | ASBH17A | Modified wording and response options in 2019 |
| HQ-12B | ASBH12B | Were the child's <parents/guardians> born in <country>? <Parent/Guardian B> | ASBH17B | Modified wording and response options in 2019 |
| HQ-13Aa | ASBH13AA | Do the child's <parents/guardians> talk with the child in the following languages? <Parent/Guardian A> <language of test> | ASBH18AA | Modified wording in 2019 |
| HQ-13Ab | ASBH13AB | Do the child's <parents/guardians> talk with the child in the following languages? <Parent/Guardian B> <language of test> | ASBH18AB | Modified wording in 2019 |
| HQ-13Ba | ASBH13BA | Do the child's <parents/guardians> talk with the child in the following languages? <Parent/Guardian A> <country-specific> | ASBH18BA | Modified wording in 2019 |
| HQ-13Bb | ASBH13BB | Do the child's <parents/guardians> talk with the child in the following languages? <Parent/Guardian B> <country-specific> | ASBH18BB | Modified wording in 2019 |

Exhibit 1.3: International Context Variables for the TIMSS 2019 Home Questionnaire (Grade 4)

| TIMSS 2019 Question Number | TIMSS 2019 Variable Name | TIMSS 2019 Variable Description | TIMSS 2015 Variable Name | Notes |
|---|---|---|---|---|
| HQ-13Ca | ASBH13CA | Do the child's <parents/guardians> talk with the child in the following languages? <Parent/Guardian A> <country-specific> | ASBH18CA | Modified wording in 2019 |
| HQ-13Cb | ASBH13CB | Do the child's <parents/guardians> talk with the child in the following languages? <Parent/Guardian B> <country-specific> | ASBH18CB | Modified wording in 2019 |
| HQ-13Da | ASBH13DA | Do the child's <parents/guardians> talk with the child in the following languages? <Parent/Guardian A> <country-specific> | ASBH18DA | Modified wording in 2019 |
| HQ-13Db | ASBH13DB | Do the child's <parents/guardians> talk with the child in the following languages? <Parent/Guardian B> <country-specific> | ASBH18DB | Modified wording in 2019 |
| HQ-13Ea | ASBH13EA | Do the child's <parents/guardians> talk with the child in the following languages? <Parent/Guardian A> <country-specific> | ASBH18EA | Modified wording in 2019 |
| HQ-13Eb | ASBH13EB | Do the child's <parents/guardians> talk with the child in the following languages? <Parent/Guardian B> <country-specific> | ASBH18EB | Modified wording in 2019 |
| HQ-13Fa | ASBH13FA | Do the child's <parents/guardians> talk with the child in the following languages? <Parent/Guardian A> Other | ASBH18FA | Modified wording in 2019 |
| HQ-13Fb | ASBH13FB | Do the child's <parents/guardians> talk with the child in the following languages? <Parent/Guardian B> Other | ASBH18FB | Modified wording in 2019 |
| HQ-13Ga | ASBH13GA | Do the child's <parents/guardians> talk with the child in the following languages? <Parent/Guardian A> Not applicable | ASBH18GA | Modified wording and response options in 2019 |
| HQ-13Gb | ASBH13GB | Do the child's <parents/guardians> talk with the child in the following languages? <Parent/Guardian B> Not applicable | ASBH18GB | Modified wording and response options in 2019 |
| HQ-14 | ASBH14 | How often does your child speak <language of test> at home? | ASBH19 | |
| HQ-15a | ASBH15A | What is the highest level of education completed by the child's <parents/guardians>? <Parent/Guardian A> | ASBH20A | Modified wording in 2019 |
| HQ-15b | ASBH15B | What is the highest level of education completed by the child's <parents/guardians>? <Parent/Guardian B> | ASBH20B | Modified wording in 2019 |
| HQ-16 | ASBH16 | How far in his/her education do you expect your child to go? | ASBH21 | |
| HQ-17a | ASBH17A | What kind of work do the child's <parents/guardians> do for their main jobs? <Parent/Guardian A> | ASBH23A | Modified wording and response options in 2019 |
| HQ-17b | ASBH17B | What kind of work do the child's <parents/guardians> do for their main jobs? <Parent/Guardian B> | ASBH23B | Modified wording and response options in 2019 |

Identification Label



TRENDS IN INTERNATIONAL
MATHEMATICS AND SCIENCE STUDY

Early Learning Survey

<Grade 4>

<TIMSS National Research Center Name>
<Address>

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TIMSS & PIRLS
International Study Center
Lynch School of Education
BOSTON COLLEGE

Early Learning Survey

Your child's class has been selected to participate in the Trends in International 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/guardian>, or jointly by both <parents/guardians>.

TIMSS 2019

Before Your Child Began Primary/Elementary School

1

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.



- | | | | | |
|---------|--|-----------------------|-----------------------|-----------------------|
| ASBH01A | a) Read books ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ASBH01B | b) Tell stories ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ASBH01C | c) Sing songs ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ASBH01D | d) Play with alphabet toys (e.g., blocks with letters of the alphabet) ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ASBH01E | e) Talk about things you had done ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ASBH01F | f) Talk about what you had read - ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ASBH01G | g) Play word games ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ASBH01H | h) Write letters or words ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ASBH01I | i) Read aloud signs and labels --- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ASBH01J | j) Say counting rhymes or sing counting songs ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ASBH01K | k) Play with number toys (e.g., blocks with numbers) --- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ASBH01L | l) Count different things ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ASBH01M | m) Play games involving shapes (e.g., shape sorting toys, puzzles) ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ASBH01N | n) Play with building blocks or construction toys ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ASBH01O | o) Play board or card games ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ASBH01P | p) Write numbers ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ASBH01Q | q) Draw shapes ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ASBH01R | r) Measure or weigh things (e.g., when cooking) ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Please turn the page

2

ASBH02A A. Was your child born in <country>?

Check one circle only.

Yes--- (**If Yes, go to #3**)

No---

ASBH02B B. How old was your child when he/she came to <country>?

Check one circle only.

Younger than 3 years old---

3 to 5 years old---

6 to 7 years old---

8 years old or older---

3

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.

Yes

No

- | | | | |
|---------|-----------------------------|-----------------------|-----------------------|
| ASBH03A | a) <language of test> ----- | <input type="radio"/> | <input type="radio"/> |
| ASBH03B | b) <country-specific> ----- | <input type="radio"/> | <input type="radio"/> |
| ASBH03C | c) <country-specific> ----- | <input type="radio"/> | <input type="radio"/> |
| ASBH03D | d) <country-specific> ----- | <input type="radio"/> | <input type="radio"/> |
| ASBH03E | e) <country-specific> ----- | <input type="radio"/> | <input type="radio"/> |
| ASBH03F | f) Other ----- | <input type="radio"/> | <input type="radio"/> |

3

Early Learning Survey

4

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

Check one circle for each line.

- ASBH04AA a) Early childhood educational program or center for children under age 3 ----- Yes No
- ASBH04AB b) Pre-primary educational program for children age 3 or older, including <Kindergarten>----- Yes No

ASBH04B **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---

ASBH05

5

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---

6

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

- | | | |
|---------|--|---|
| ASBH06A | a) Recognize most of the letters of the alphabet ----- | <input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/> |
| ASBH06B | b) Read some words ----- | <input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/> |
| ASBH06C | c) Read sentences ----- | <input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/> |
| ASBH06D | d) Read a story ----- | <input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/> |
| ASBH06E | e) Write letters of the alphabet ----- | <input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/> |
| ASBH06F | f) Write his/her name ----- | <input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/> |
| ASBH06G | g) Write words other than his/her name ----- | <input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/> |

5

Early Learning Survey

7

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

- ASBH07A a) Count by himself/herself -----
- ASBH07B b) Recognize written numbers -----
- ASBH07C c) Write numbers -----

Yes

No

- ASBH07D d) Do simple addition -----
- ASBH07E e) Do simple subtraction -----

Studying Outside of School

8

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

Check **one** circle for each line.

Yes, to excel in class

Yes, to keep up in class

No

ASBH08AA a) Mathematics -----

ASBH08AB b) Science -----

B. For how many of the last 12 months has your child attended extra lessons or tutoring?

Check **one** circle for each line.

Did not attend

Less than 4 months

4-8 months

More than 8 months

ASBH08BA a) Mathematics -----

ASBH08BB b) Science -----

Your Child's School

9

What do you think of your child's school?

Check **one** circle for each line.



- ASBH09A a) My child's school does a good job including me in my child's education -----
- ASBH09B b) My child's school provides a safe environment -----
- ASBH09C c) My child's school cares about my child's progress in school -----
- ASBH09D d) My child's school does a good job informing me of his/her progress -----
- ASBH09E e) My child's school promotes high academic standards -----
- ASBH09F f) My child's school does a good job in helping him/her become better in reading -----
- ASBH09G g) My child's school does a good job in helping him/her become better in mathematics -----
- ASBH09H h) My child's school does a good job in helping him/her become better in science -----

Additional Information

ASBH10 10

**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---

ASBH11 11

**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---

The following questions are about the child's <Parent/Guardian A> and <Parent/Guardian B>. <If the child has only one parent/guardian, answer for Parent/Guardian A. If there are two parents/guardians, choose one for Parent/Guardian A and the other for Parent/Guardian B.>

12

Were the child's <parents/guardians> born in <country>?

ASBH12A A. <Parent/Guardian A>

Check one circle only.

Yes ---

No ---

Not applicable ---

ASBH12B B. <Parent/Guardian B>

Check one circle only.

Yes ---

No ---

Not applicable ---

13

Do the child's <parents/guardians> talk with the child in the following languages?

Check all that apply.

| | | <Parent/Guardian A> | <Parent/Guardian B> |
|----------|-----------------------------|-----------------------|--------------------------------|
| ASBH13AA | a) <language of test> ----- | <input type="radio"/> | ASBH13AB <input type="radio"/> |
| ASBH13BA | b) <country-specific> ----- | <input type="radio"/> | ASBH13BB <input type="radio"/> |
| ASBH13CA | c) <country-specific> ----- | <input type="radio"/> | ASBH13CB <input type="radio"/> |
| ASBH13DA | d) <country-specific> ----- | <input type="radio"/> | ASBH13DB <input type="radio"/> |
| ASBH13EA | e) <country-specific> ----- | <input type="radio"/> | ASBH13EB <input type="radio"/> |
| ASBH13FA | f) Other ----- | <input type="radio"/> | ASBH13FB <input type="radio"/> |
| ASBH13GA | g) Not applicable ----- | <input type="radio"/> | ASBH13GB <input type="radio"/> |

14

ASBH14 How often does your child speak <language of test> at home?

Check one circle only.

Always ---

Almost always ---

Sometimes ---

Never ---

15

What is the highest level of education completed by the child's <parents/guardians>?

ASBH15A

ASBH15B

Check one circle in each column.

<Parent /
Guardian A>

<Parent/
Guardian B>

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

ASBH16 16

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> ---

17

What kind of work do the child's <parents/guardians> 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 <parent/guardian> is not working now, think about the last job that he/she had.

13

Early Learning Survey

17 (continued)

Check **one** circle in each column.

ASBH17A

<Parent/
Guardian A>

ASBH17B

<Parent/
Guardian B>

- a) Has never worked for pay -----
- b) Small Business Owner -----

Includes owners of small businesses (fewer than 25 employees) such as retail shops, services, restaurants
- c) Clerical Worker -----

Includes office clerks; secretaries; typists; data entry operators; customer service clerks
- d) Service or Sales Worker -----

Includes travel attendants; restaurant service workers; personal care workers; protective service workers; salespersons; street vendors
- e) Skilled Agricultural or Fishery Worker -----

Includes farmers; forestry workers; fishery workers; hunters and trappers
- f) Craft or Trade Worker -----

Includes builders, carpenters, plumbers, electricians, metal workers; machine mechanics; handicraft workers
- g) Plant or Machine Operator -----

Includes plant and machine operators; assembly-line operators; motor-vehicle drivers
- h) General Laborers -----

Includes domestic helpers and cleaners; building caretakers; messengers, porters, and doorkeepers; farm, fishery, agricultural, and construction workers
- 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
- j) Professional -----

Includes scientists; mathematicians; computer scientists; architects; engineers; life science and health professionals; teachers; legal professionals; police officers; social scientists; writers and artists; religious professionals
- 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
- l) Not applicable -----

Thank you

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





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SECTION 1.4: TEACHER QUESTIONNAIRE GRADE 4

TIMSS 2019 USER GUIDE FOR THE
INTERNATIONAL DATABASE



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Exhibit 1.4: International Context Variables for the TIMSS 2019 Teacher Questionnaire (Grade 4)

| TIMSS 2019 Question Number | TIMSS 2019 Variable Name | TIMSS 2019 Variable Description | TIMSS 2015 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 male or female? | ATBG02 | |
| TQG-03 | ATBG03 | How old are you? | ATBG03 | |
| TQG-04 | ATBG04 | What is the highest level of formal education you have completed? | ATBG04 | |
| 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 | ATBG06A | |
| TQG-06b | ATBG06B | How would you characterize each of the following within your school? Teachers' degree of success in implementing the school's curriculum | ATBG06B | |
| TQG-06c | ATBG06C | How would you characterize each of the following within your school? Teachers' expectations for student achievement | ATBG06C | |
| TQG-06d | ATBG06D | How would you characterize each of the following within your school? Teachers' ability to inspire students | ATBG06E | |
| TQG-06e | ATBG06E | How would you characterize each of the following within your school? Parental involvement in school activities | ATBG06F | |
| TQG-06f | ATBG06F | How would you characterize each of the following within your school? Parental commitment to ensure that students are ready to learn | ATBG06G | |
| TQG-06g | ATBG06G | How would you characterize each of the following within your school? Parental expectations for student achievement | ATBG06H | |
| TQG-06h | ATBG06H | How would you characterize each of the following within your school? Parental support for student achievement | ATBG06I | |
| TQG-06i | ATBG06I | How would you characterize each of the following within your school? Students' desire to do well in school | ATBG06K | |
| TQG-06j | ATBG06J | How would you characterize each of the following within your school? Students' ability to reach school's academic goals | ATBG06L | |
| TQG-06k | ATBG06K | How would you characterize each of the following within your school? Students' respect for classmates who excel academically | ATBG06M | Modified wording in 2019 |

Exhibit 1.4: International Context Variables for the TIMSS 2019 Teacher Questionnaire (Grade 4)

| TIMSS 2019 Question Number | TIMSS 2019 Variable Name | TIMSS 2019 Variable Description | TIMSS 2015 Variable Name | Notes |
|---|---|--|---|--------------------------|
| TQG-06l | ATBG06L | How would you characterize each of the following within your school? Collaboration between school leadership (including master teachers) and teachers to plan instruction | ATBG06O | Modified wording in 2019 |
| 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 | ATBG07F | |
| 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 | ATBG07G | |
| 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 | ATBG07H | |
| TQG-08a | ATBG08A | How often do you feel the following way about being a teacher? I am content with my profession as a teacher | ATBG10A | |
| TQG-08b | ATBG08B | How often do you feel the following way about being a teacher? I find my work full of meaning and purpose | ATBG10C | |
| TQG-08c | ATBG08C | How often do you feel the following way about being a teacher? I am enthusiastic about my job | ATBG10D | |
| TQG-08d | ATBG08D | How often do you feel the following way about being a teacher? My work inspires me | ATBG10E | |
| TQG-08e | ATBG08E | How often do you feel the following way about being a teacher? I am proud of the work I do | ATBG10F | |
| TQG-09a | ATBG09A | Indicate the extent to which you agree or disagree with each of the following statements. There are too many students in the classes | ATBG11A | |
| TQG-09b | ATBG09B | Indicate the extent to which you agree or disagree with each of the following statements. I have too much material to cover in class | ATBG11B | |
| TQG-09c | ATBG09C | Indicate the extent to which you agree or disagree with each of the following statements. I have too many teaching hours | ATBG11C | |
| TQG-09d | ATBG09D | Indicate the extent to which you agree or disagree with each of the following statements. I need more time to prepare for class | ATBG11D | |
| TQG-09e | ATBG09E | Indicate the extent to which you agree or disagree with each of the following statements. I need more time to assist individual students | ATBG11E | |
| TQG-09f | ATBG09F | Indicate the extent to which you agree or disagree with each of the following statements. I feel too much pressure from parents | ATBG11F | |

Exhibit 1.4: International Context Variables for the TIMSS 2019 Teacher Questionnaire (Grade 4)

| TIMSS 2019 Question Number | TIMSS 2019 Variable Name | TIMSS 2019 Variable Description | TIMSS 2015 Variable Name | Notes |
|---|---|--|---|--------------------------|
| TQG-09g | ATBG09G | 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 | ATBG11G | |
| TQG-09h | ATBG09H | Indicate the extent to which you agree or disagree with each of the following statements. I have too many administrative tasks | ATBG11H | |
| TQG-10A | ATBG10A | How many students are in this class? | ATBG12A | |
| TQG-10B | ATBG10B | How many of the students in #G10A are in <fourth grade>? | ATBG12B | |
| TQG-11 | ATBG11 | How many <fourth grade> students experience difficulties understanding spoken <language of test>? | ATBG13 | |
| TQG-12a | ATBG12A | How often do you do the following in teaching this class? Relate the lesson to students' daily lives | ATBG14A | |
| TQG-12b | ATBG12B | How often do you do the following in teaching this class? Ask students to explain their answers | ATBG14B | |
| TQG-12c | ATBG12C | How often do you do the following in teaching this class? Bring interesting materials to class | ATBG14C | |
| TQG-12d | ATBG12D | 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 | ATBG14D | |
| TQG-12e | ATBG12E | How often do you do the following in teaching this class? Encourage classroom discussions among students | ATBG14E | |
| TQG-12f | ATBG12F | How often do you do the following in teaching this class? Link new content to students' prior knowledge | ATBG14F | |
| TQG-12g | ATBG12G | How often do you do the following in teaching this class? Ask students to decide their own problem solving procedures | ATBG14G | |
| TQG-12h | ATBG12H | How often do you do the following in teaching this class? Encourage students to express their ideas in class | ATBG14H | |
| TQG-13a | ATBG13A | In your view, to what extent do the following limit how you teach this class? Students lacking prerequisite knowledge or skills | ATBG15A | |
| TQG-13b | ATBG13B | In your view, to what extent do the following limit how you teach this class? Students suffering from lack of basic nutrition | ATBG15B | |
| TQG-13c | ATBG13C | In your view, to what extent do the following limit how you teach this class? Students suffering from not enough sleep | ATBG15C | |
| TQG-13d | ATBG13D | In your view, to what extent do the following limit how you teach this class? Students absent from class | | |
| TQG-13e | ATBG13E | In your view, to what extent do the following limit how you teach this class? Disruptive students | ATBG15D | |
| TQG-13f | ATBG13F | In your view, to what extent do the following limit how you teach this class? Uninterested students | ATBG15E | |
| TQG-13g | ATBG13G | In your view, to what extent do the following limit how you teach this class? Students with mental, emotional, or psychological impairment | ATBG15G | Modified wording in 2019 |
| TQG-13h | ATBG13H | In your view, to what extent do the following limit how you teach this class? Students with difficulties understanding the language of instruction | | |
| TQM-01 | ATBM01 | In a typical week, how much time do you spend teaching mathematics to the students in this class? (minutes) | ATBM01 | |
| TQM-02a | ATBM02A | In teaching mathematics to this class, how often do you ask students to do the following? Listen to me explain new mathematics content | ATBM03A | |
| TQM-02b | ATBM02B | In teaching mathematics to this class, how often do you ask students to do the following? Listen to me explain how to solve problems | ATBM03B | |

Exhibit 1.4: International Context Variables for the TIMSS 2019 Teacher Questionnaire (Grade 4)

| TIMSS 2019 Question Number | TIMSS 2019 Variable Name | TIMSS 2019 Variable Description | TIMSS 2015 Variable Name | Notes |
|-------------------------------------|-----------------------------------|---|-----------------------------------|-------|
| TQM-02c | ATBM02C | In teaching mathematics to this class, how often do you ask students to do the following? Memorize rules, procedures, and facts | ATBM03C | |
| TQM-02d | ATBM02D | In teaching mathematics to this class, how often do you ask students to do the following? Practice procedures on their own | | |
| TQM-02e | ATBM02E | In teaching mathematics to this class, how often do you ask students to do the following? Apply what they have learned to new problem situations on their own | | |
| TQM-02f | ATBM02F | 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 | ATBM03E | |
| TQM-02g | ATBM02G | In teaching mathematics to this class, how often do you ask students to do the following? Work in mixed ability groups | ATBM03H | |
| TQM-02h | ATBM02H | In teaching mathematics to this class, how often do you ask students to do the following? Work in same ability groups | ATBM03I | |
| TQM-03 | ATBM03 | Are the students in this class permitted to use calculators during mathematics lessons? | ATBM04 | |
| TQM-04A | ATBM04A | Do the students in this class have computers (including tablets) available to use during their mathematics lessons? | ATBM05A | |
| TQM-04Ba | ATBM04BA | What access do the students have to computers? Each student has a computer | ATBM05BA | |
| TQM-04Bb | ATBM04BB | What access do the students have to computers? The class has computers that students can share | ATBM05BB | |
| TQM-04Bc | ATBM04BC | What access do the students have to computers? The school has computers that the class can use sometimes | ATBM05BC | |
| TQM-04Ca | ATBM04CA | How often do you do activities on computers during mathematics lessons to support learning for: Whole class | | |
| TQM-04Cb | ATBM04CB | How often do you do activities on computers during mathematics lessons to support learning for: Low-performing students | | |
| TQM-04Cc | ATBM04CC | How often do you do activities on computers during mathematics lessons to support learning for: High-performing students | | |
| TQM-04Cd | ATBM04CD | How often do you do activities on computers during mathematics lessons to support learning for: Students with special needs | | |
| TQM-05Aa | ATBM05AA | 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 TQM-06 in 2015 for sub-topics | |
| TQM-05Ab | ATBM05AB | When students in this class have been taught each of the following mathematics topics. Number: Adding, subtracting, multiplying, and dividing with whole numbers | See TQM-06 in 2015 for sub-topics | |
| TQM-05Ac | ATBM05AC | 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 TQM-06 in 2015 for sub-topics | |
| TQM-05Ad | ATBM05AD | When students in this class have been taught each of the following mathematics topics. Number: Number sentences (finding the missing number, representing problem situations with number sentences) | See TQM-06 in 2015 for sub-topics | |
| TQM-05Ae | ATBM05AE | When students in this class have been taught each of the following mathematics topics. Number: Number patterns (extending number patterns and finding missing terms) | See TQM-06 in 2015 for sub-topics | |

Exhibit 1.4: International Context Variables for the TIMSS 2019 Teacher Questionnaire (Grade 4)

| TIMSS 2019 Question Number | TIMSS 2019 Variable Name | TIMSS 2019 Variable Description | TIMSS 2015 Variable Name | Notes |
|-------------------------------------|-----------------------------------|---|-----------------------------------|-------|
| TQM-05Af | ATBM05AF | When students in this class have been taught each of the following mathematics topics. Number: Concepts of fractions, including representing, comparing and ordering, adding and subtracting simple fractions | See TQM-06 in 2015 for sub-topics | |
| TQM-05Ag | ATBM05AG | 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 TQM-06 in 2015 for sub-topics | |
| TQM-05Ba | ATBM05BA | When students in this class have been taught each of the following mathematics topics. Measurement and Geometry: Solving problems involving length, including measuring and estimating | See TQM-06 in 2015 for sub-topics | |
| TQM-05Bb | ATBM05BB | When students in this class have been taught each of the following mathematics topics. Measurement and Geometry: Solving problems involving mass, volume, and time | See TQM-06 in 2015 for sub-topics | |
| TQM-05Bc | ATBM05BC | When students in this class have been taught each of the following mathematics topics. Measurement and Geometry: Finding and estimating perimeter, area, and volume | See TQM-06 in 2015 for sub-topics | |
| TQM-05Bd | ATBM05BD | When students in this class have been taught each of the following mathematics topics. Measurement and Geometry: Parallel and perpendicular lines | See TQM-06 in 2015 for sub-topics | |
| TQM-05Be | ATBM05BE | When students in this class have been taught each of the following mathematics topics. Measurement and Geometry: Comparing and drawing angles | See TQM-06 in 2015 for sub-topics | |
| TQM-05Bf | ATBM05BF | When students in this class have been taught each of the following mathematics topics. Measurement and Geometry: Elementary properties of common geometric shapes | See TQM-06 in 2015 for sub-topics | |
| TQM-05Bg | ATBM05BG | When students in this class have been taught each of the following mathematics topics. Measurement and Geometry: Three-dimensional shapes, including relationships with their two-dimensional representations | See TQM-06 in 2015 for sub-topics | |
| TQM-05Ca | ATBM05CA | When students in this class have been taught each of the following mathematics topics. Data: Reading and interpreting data from tables, pictographs, bar graphs, line graphs, and pie charts | See TQM-06 in 2015 for sub-topics | |
| TQM-05Cb | ATBM05CB | When students in this class have been taught each of the following mathematics topics. Data: Organizing and representing data to help answer questions | See TQM-06 in 2015 for sub-topics | |
| TQM-05Cc | ATBM05CC | When students in this class have been taught each of the following mathematics topics. Data: Drawing conclusions from data displays | See TQM-06 in 2015 for sub-topics | |
| TQM-06A | ATBM06A | How often do you usually assign mathematics homework to the students in this class? | ATBM07A | |
| TQM-06B | ATBM06B | 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.) | ATBM07B | |
| TQM-06Ca | ATBM06CA | How often do you do the following with the mathematics homework assignments for this class? Correct assignments and give feedback to students | ATBM07CA | |
| TQM-06Cb | ATBM06CB | How often do you do the following with the mathematics homework assignments for this class? Discuss the homework in class | ATBM07CB | |
| TQM-06Cc | ATBM06CC | How often do you do the following with the mathematics homework assignments for this class? Monitor whether or not the homework was completed | ATBM07CC | |

Exhibit 1.4: International Context Variables for the TIMSS 2019 Teacher Questionnaire (Grade 4)

| TIMSS 2019 Question Number | TIMSS 2019 Variable Name | TIMSS 2019 Variable Description | TIMSS 2015 Variable Name | Notes |
|-------------------------------------|-----------------------------------|---|-----------------------------------|-------------------------------------|
| TQM-07a | ATBM07A | How much importance do you place on the following assessment strategies in mathematics? Observing students as they work | | |
| TQM-07b | ATBM07B | How much importance do you place on the following assessment strategies in mathematics? Asking students to answer questions during class | | |
| TQM-07c | ATBM07C | How much importance do you place on the following assessment strategies in mathematics? Short, regular written assessments | | |
| TQM-07d | ATBM07D | How much importance do you place on the following assessment strategies in mathematics? Longer tests (e.g., unit tests or exams) | | |
| TQM-07e | ATBM07E | How much importance do you place on the following assessment strategies in mathematics? Long-term projects | | |
| TQM-08 | ATBM08 | About how often do <fourth grade> students in this class take mathematics tests on computers or tablets? | | |
| TQM-09Aa | ATBM09AA | In the past two years, have you participated in professional development in any of the following? Mathematics content | ATBM09A | Modified format in 2019 |
| TQM-09Ab | ATBM09AB | In the past two years, have you participated in professional development in any of the following? Mathematics pedagogy/instruction | ATBM09B | Modified format in 2019 |
| TQM-09Ac | ATBM09AC | In the past two years, have you participated in professional development in any of the following? Mathematics curriculum | ATBM09C | Modified format in 2019 |
| TQM-09Ad | ATBM09AD | In the past two years, have you participated in professional development in any of the following? Integrating technology into mathematics instruction | ATBM09D | Modified wording and format in 2019 |
| TQM-09Ae | ATBM09AE | In the past two years, have you participated in professional development in any of the following? Improving students' critical thinking or problem solving skills | ATBM09E | Modified format in 2019 |
| TQM-09Af | ATBM09AF | In the past two years, have you participated in professional development in any of the following? Mathematics assessment | ATBM09F | Modified format in 2019 |
| TQM-09Ag | ATBM09AG | In the past two years, have you participated in professional development in any of the following? Addressing individual students' needs | ATBM09G | Modified format in 2019 |
| TQM-09Ba | ATBM09BA | Do you need future professional development in any of the following? Mathematics content | | |
| TQM-09Bb | ATBM09BB | Do you need future professional development in any of the following? Mathematics pedagogy/instruction | | |
| TQM-09Bc | ATBM09BC | Do you need future professional development in any of the following? Mathematics curriculum | | |
| TQM-09Bd | ATBM09BD | Do you need future professional development in any of the following? Integrating technology into mathematics instruction | | |
| TQM-09Be | ATBM09BE | Do you need future professional development in any of the following? Improving students' critical thinking or problem solving skills | | |
| TQM-09Bf | ATBM09BF | Do you need future professional development in any of the following? Mathematics assessment | | |
| TQM-09Bg | ATBM09BG | Do you need future professional development in any of the following? Addressing individual students' needs | | |
| TQM-10 | ATBM10 | In the past two years, how many hours in total have you spent in formal <in-service/professional development> for mathematics? | ATBM10 | |
| 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). | ATBS01B | |

Exhibit 1.4: International Context Variables for the TIMSS 2019 Teacher Questionnaire (Grade 4)

| TIMSS 2019 Question Number | TIMSS 2019 Variable Name | TIMSS 2019 Variable Description | TIMSS 2015 Variable Name | Notes |
|-------------------------------------|-----------------------------------|---|-----------------------------------|-------|
| TQS-02a | ATBS02A | 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 | ATBS03A | |
| TQS-02b | ATBS02B | 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 | ATBS03B | |
| TQS-02c | ATBS02C | 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 | ATBS03C | |
| TQS-02d | ATBS02D | 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 | ATBS03D | |
| TQS-02e | ATBS02E | In teaching science to the students in this class, how often do you ask them to do the following? Conduct experiments or investigations | ATBS03E | |
| TQS-02f | ATBS02F | 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 | ATBS03F | |
| TQS-02g | ATBS02G | 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 | ATBS03G | |
| TQS-02h | ATBS02H | 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 | ATBS03H | |
| TQS-02i | ATBS02I | 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 | ATBS03I | |
| TQS-02j | ATBS02J | 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 | ATBS03J | |
| TQS-02k | ATBS02K | 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 | ATBS03K | |
| TQS-02l | ATBS02L | In teaching science to the students in this class, how often do you ask them to do the following? Work in mixed ability groups | ATBS03M | |
| TQS-02m | ATBS02M | In teaching science to the students in this class, how often do you ask them to do the following? Work in same ability groups | ATBS03N | |
| TQS-03A | ATBS03A | Do the students in this class have computers (including tablets) available to use during their science lessons? | ATBS04A | |
| TQS-03Ba | ATBS03BA | What access do the students have to computers? Each student has a computer | ATBS04BA | |
| TQS-03Bb | ATBS03BB | What access do the students have to computers? The class has computers that students can share | ATBS04BB | |
| TQS-03Bc | ATBS03BC | What access do the students have to computers? The school has computers that the class can use sometimes | ATBS04BC | |
| TQS-03Ca | ATBS03CA | How often do you do activities on computers during science lessons to support learning for: Whole class | | |
| TQS-03Cb | ATBS03CB | How often do you do activities on computers during science lessons to support learning for: Low-performing students | | |
| TQS-03Cc | ATBS03CC | How often do you do activities on computers during science lessons to support learning for: High-performing students | | |
| TQS-03Cd | ATBS03CD | How often do you do activities on computers during science lessons to support learning for: Students with special needs | | |
| TQS-04Aa | ATBS04AA | When students in this class have been taught each of the following science topics. Life Science: Physical and behavioral characteristics of living things and major groups of living things (e.g., mammals, birds, insects, flowering plants) | See TQS-05 in 2015 for sub-topics | |

Exhibit 1.4: International Context Variables for the TIMSS 2019 Teacher Questionnaire (Grade 4)

| TIMSS 2019 Question Number | TIMSS 2019 Variable Name | TIMSS 2019 Variable Description | TIMSS 2015 Variable Name | Notes |
|----------------------------|--------------------------|--|-----------------------------------|-------|
| TQS-04Ab | ATBS04AB | 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 TQS-05 in 2015 for sub-topics | |
| TQS-04Ac | ATBS04AC | When students in this class have been taught each of the following science topics. Life Science: Life cycles of common plants and animals (e.g., flowering plants, butterflies, frogs) | See TQS-05 in 2015 for sub-topics | |
| TQS-04Ad | ATBS04AD | When students in this class have been taught each of the following science topics. Life Science: Characteristics of plants and animals that are inherited | See TQS-05 in 2015 for | |
| TQS-04Ae | ATBS04AE | When students in this class have been taught each of the following science topics. Life Science: Interactions between organisms and their environments (e.g., physical features and behaviors that help living things survive in their environments) | See TQS-05 in 2015 for sub-topics | |
| TQS-04Af | ATBS04AF | When students in this class have been taught each of the following science topics. Life Science: Relationships in ecosystems (e.g., simple food chains, predator-prey relationships, competition) | See TQS-05 in 2015 for sub-topics | |
| TQS-04Ag | ATBS04AG | When students in this class have been taught each of the following science topics. Life Science: Human health (transmission and prevention of diseases, everyday behaviors that promote good health) | See TQS-05 in 2015 for sub-topics | |
| TQS-04Ba | ATBS04BA | When students in this class have been taught each of the following science topics. Physical Science: States of matter (solid, liquid, gas) and their properties (volume, shape) | See TQS-05 in 2015 for sub-topics | |
| TQS-04Bb | ATBS04BB | 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, state of matter, conductivity of heat or electricity) | See TQS-05 in 2015 for sub-topics | |
| TQS-04Bc | ATBS04BC | When students in this class have been taught each of the following science topics. Physical Science: Mixtures, including methods for separating a mixture into its components (e.g., sifting, filtering, evaporation, using a magnet) | See TQS-05 in 2015 for sub-topics | |
| TQS-04Bd | ATBS04BD | When students in this class have been taught each of the following science topics. Physical Science: Properties of magnets (e.g., like poles repel and opposite poles attract, magnets can attract some objects) | See TQS-05 in 2015 for sub-topics | |
| TQS-04Be | ATBS04BE | When students in this class have been taught each of the following science topics. Physical Science: Physical changes in everyday life (e.g., changes of state, dissolving) | See TQS-05 in 2015 for sub-topics | |
| TQS-04Bf | ATBS04BF | When students in this class have been taught each of the following science topics. Physical Science: Chemical changes in everyday life (e.g., decaying, burning, rusting, cooking) | See TQS-05 in 2015 for sub-topics | |
| TQS-04Bg | ATBS04BG | When students in this class have been taught each of the following science topics. Physical Science: Common sources of energy (e.g., the Sun, wind, oil) and uses of energy (heating and cooling homes, providing light) | See TQS-05 in 2015 for sub-topics | |
| TQS-04Bh | ATBS04BH | When students in this class have been taught each of the following science topics. Physical Science: Light and sound in everyday life (e.g., shadows and reflections, vibrating objects make sound) | See TQS-05 in 2015 for sub-topics | |
| TQS-04Bi | ATBS04BI | When students in this class have been taught each of the following science topics. Physical Science: Heat transfer (e.g., energy flows from a hot object to a colder object) | See TQS-05 in 2015 for sub-topics | |

Exhibit 1.4: International Context Variables for the TIMSS 2019 Teacher Questionnaire (Grade 4)

| TIMSS 2019 Question Number | TIMSS 2019 Variable Name | TIMSS 2019 Variable Description | TIMSS 2015 Variable Name | Notes |
|-------------------------------------|-----------------------------------|---|-----------------------------------|-------|
| TQS-04Bj | ATBS04BJ | When students in this class have been taught each of the following science topics. Physical Science: Electricity and simple electrical circuits (e.g., a circuit must be complete to work correctly) | See TQS-05 in 2015 for sub-topics | |
| TQS-04Bk | ATBS04BK | 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) or change their motion (e.g., friction) | See TQS-05 in 2015 for sub-topics | |
| TQS-04Bl | ATBS04BL | When students in this class have been taught each of the following science topics. Physical Science: Simple machines (e.g., levers, pulleys, wheels, ramps) that help make motion easier | See TQS-05 in 2015 for sub-topics | |
| TQS-04Ca | ATBS04CA | When students in this class have been taught each of the following science topics. Earth Science: Physical makeup of Earth's surface (e.g., land and water in unequal proportions, sources of fresh and salt water) | See TQS-05 in 2015 for sub-topics | |
| TQS-04Cb | ATBS04CB | When students in this class have been taught each of the following science topics. Earth Science: Earth's resources used in everyday life (e.g., water, wind, soil, forests, oil, natural gas, minerals) | See TQS-05 in 2015 for sub-topics | |
| TQS-04Cc | ATBS04CC | When students in this class have been taught each of the following science topics. Earth Science: Changes in Earth's surface over time (e.g., mountain building, weathering, erosion) | See TQS-05 in 2015 for sub-topics | |
| TQS-04Cd | ATBS04CD | When students in this class have been taught each of the following science topics. Earth Science: Fossils and what they can tell us about past conditions on Earth | See TQS-05 in 2015 for sub-topics | |
| TQS-04Ce | ATBS04CE | When students in this class have been taught each of the following science topics. Earth Science: Weather and climate (e.g., daily, seasonal, and locational variations versus long term trends) | See TQS-05 in 2015 for sub-topics | |
| TQS-04Cf | ATBS04CF | When students in this class have been taught each of the following science topics. Earth Science: Objects in the Solar System (the Sun, the Earth, the Moon, and other planets) and their movements | See TQS-05 in 2015 for sub-topics | |
| TQS-04Cg | ATBS04CG | When students in this class have been taught each of the following science topics. Earth Science: Earth's motion and related patterns observed on Earth (e.g., day and night, seasons) | See TQS-05 in 2015 for sub-topics | |
| TQS-05A | ATBS05A | How often do you usually assign science homework to the students in this class? | ATBS06A | |
| TQS-05B | ATBS05B | 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.) | ATBS06B | |
| TQS-05Ca | ATBS05CA | How often do you do the following with the science homework assignments for this class? Correct assignments and give feedback to students | ATBS06CA | |
| TQS-05Cb | ATBS05CB | How often do you do the following with the science homework assignments for this class? Discuss the homework in class | ATBS06CB | |
| TQS-05Cc | ATBS05CC | How often do you do the following with the science homework assignments for this class? Monitor whether or not the homework was completed | ATBS06CC | |
| TQS-06a | ATBS06A | How much importance do you place on the following assessment strategies in science? Observing students as they work | | |
| TQS-06b | ATBS06B | How much importance do you place on the following assessment strategies in science? Asking students to answer questions during class | | |
| TQS-06c | ATBS06C | How much importance do you place on the following assessment strategies in science? Short, regular written assessments | | |

Exhibit 1.4: International Context Variables for the TIMSS 2019 Teacher Questionnaire (Grade 4)

| TIMSS 2019 Question Number | TIMSS 2019 Variable Name | TIMSS 2019 Variable Description | TIMSS 2015 Variable Name | Notes |
|---|---|---|---|-------------------------------------|
| TQS-06d | ATBS06D | How much importance do you place on the following assessment strategies in science? Longer tests (e.g., unit tests or exams) | | |
| TQS-06e | ATBS06E | How much importance do you place on the following assessment strategies in science? Long-term projects | | |
| TQS-07 | ATBS07 | About how often do <fourth grade> students in this class take science tests on computers or tablets? | | |
| TQS-08Aa | ATBS08AA | In the past two years, have you participated in professional development in any of the following? Science content | ATBS08A | Modified format in 2019 |
| TQS-08Ab | ATBS08AB | In the past two years, have you participated in professional development in any of the following? Science pedagogy/instruction | ATBS08B | Modified format in 2019 |
| TQS-08Ac | ATBS08AC | In the past two years, have you participated in professional development in any of the following? Science curriculum | ATBS08C | Modified format in 2019 |
| TQS-08Ad | ATBS08AD | In the past two years, have you participated in professional development in any of the following? Integrating technology into science instruction | ATBS08D | Modified wording and format in 2019 |
| TQS-08Ae | ATBS08AE | In the past two years, have you participated in professional development in any of the following? Improving students' critical thinking or inquiry skills | ATBS08E | Modified format in 2019 |
| TQS-08Af | ATBS08AF | In the past two years, have you participated in professional development in any of the following? Science assessment | ATBS08F | Modified format in 2019 |
| TQS-08Ag | ATBS08AG | In the past two years, have you participated in professional development in any of the following? Addressing individual students' needs | ATBS08G | Modified format in 2019 |
| TQS-08Ah | ATBS08AH | In the past two years, have you participated in professional development in any of the following? Integrating science with other subjects | ATBS08H | Modified format in 2019 |
| TQS-08Ba | ATBS08BA | Do you need future professional development in any of the following? Science content | | |
| TQS-08Bb | ATBS08BB | Do you need future professional development in any of the following? Science pedagogy/instruction | | |
| TQS-08Bc | ATBS08BC | Do you need future professional development in any of the following? Science curriculum | | |
| TQS-08Bd | ATBS08BD | Do you need future professional development in any of the following? Integrating technology into science instruction | | |
| TQS-08Be | ATBS08BE | Do you need future professional development in any of the following? Improving students' critical thinking or inquiry skills | | |
| TQS-08Bf | ATBS08BF | Do you need future professional development in any of the following? Science assessment | | |
| TQS-08Bg | ATBS08BG | Do you need future professional development in any of the following? Addressing individual students' needs | | |
| TQS-08Bh | ATBS08BH | Do you need future professional development in any of the following? Integrating science with other subjects (e.g., mathematics, technology) | | |
| TQS-09 | ATBS09 | In the past two years, how many hours in total have you spent in formal <in-service/professional development> for science? | ATBS09 | |



Identification Label

TRENDS IN INTERNATIONAL MATHEMATICS AND SCIENCE STUDY

Teacher Questionnaire

<Grade 4>

<TIMSS National Research Center Name>
<Address>

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TIMSS & PIRLS
International Study Center
Lynch School of Education
BOSTON COLLEGE

Teacher Questionnaire

Your school has agreed to participate in TIMSS 2019 (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 2019

About You

G1

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

ATBG01

years
Please round to the nearest whole number.

G2

Are you female or male?

ATBG02

Check one circle only.

- Female ---
Male ---

G3

How old are you?

ATBG03

Check one circle only.

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

G4

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

ATBG04

Check one circle only.

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

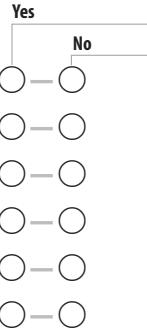
(If you have not completed <post-secondary or tertiary education>, go to #G6)

- <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.



ATBG05AA

- a) Education—Primary/Elementary -----

ATBG05AB

- b) Education—Secondary -----

ATBG05AC

- c) Mathematics -----

ATBG05AD

- d) Science -----

ATBG05AE

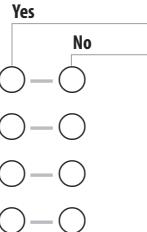
- e) <language of test> -----

ATBG05AF

- f) Other -----

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.



ATBG05BA

- a) Mathematics -----

ATBG05BB

- b) Science -----

ATBG05BC

- c) Language/reading -----

ATBG05BD

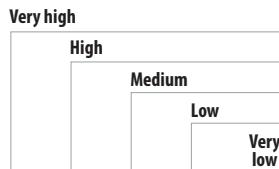
- d) Other subject -----

School Emphasis on Academic Success

G6

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

Check one circle for each line.



ATBG06A

- a) Teachers' understanding of the school's curricular goals -----

ATBG06B

- b) Teachers' degree of success in implementing the school's curriculum -----

ATBG06C

- c) Teachers' expectations for student achievement -----

ATBG06D

- d) Teachers' ability to inspire students -----

ATBG06E

- e) Parental involvement in school activities -----

ATBG06F

- f) Parental commitment to ensure that students are ready to learn -----

ATBG06G

- g) Parental expectations for student achievement -----

ATBG06H

- h) Parental support for student achievement -----

ATBG06I

- i) Students' desire to do well in school -----

ATBG06J

- j) Students' ability to reach school's academic goals -----

ATBG06K

- k) Students' respect for classmates who excel academically -----

ATBG06L

- l) Collaboration between school leadership (including master teachers) and teachers to plan instruction-----

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 -----

About Being a Teacher

G8

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

Check **one** circle for each line.

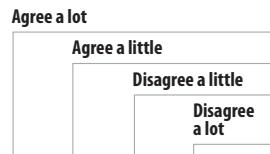


- ATBG08A a) I am content with my profession as a teacher -----
 ATBG08B b) I find my work full of meaning and purpose -----
 ATBG08C c) I am enthusiastic about my job -----
 ATBG08D d) My work inspires me -----
 ATBG08E e) I am proud of the work I do ---

G9

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

Check **one** circle for each line.



- ATBG09A a) There are too many students in the classes -----
 ATBG09B b) I have too much material to cover in class -----
 ATBG09C c) I have too many teaching hours -----
 ATBG09D d) I need more time to prepare for class -----
 ATBG09E e) I need more time to assist individual students -----
 ATBG09F f) I feel too much pressure from parents -----
 ATBG09G g) I have difficulty keeping up with all of the changes to the curriculum -----
 ATBG09H h) I have too many administrative tasks -----

About Teaching the TIMSS Class

G10

A. How many students are in this class?

ATBG10A

_____ students
Write in the number.

B. How many of the students in #G10A are in <fourth grade>?

ATBG10B

_____ <fourth grade> students
Write in the number.

G11

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

ATBG11

_____ students in this class
Write in the number.

G12

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

ATBG12A a) Relate the lesson to students' daily lives -----

ATBG12B b) Ask students to explain their answers -----

ATBG12C c) Bring interesting materials to class -----

ATBG12D d) Ask students to complete challenging exercises that require them to go beyond the instruction -----

ATBG12E e) Encourage classroom discussions among students -----

ATBG12F f) Link new content to students' prior knowledge -----

ATBG12G g) Ask students to decide their own problem solving procedures -----

ATBG12H h) Encourage students to express their ideas in class -----

G13

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 horizontal scale with three open circles. The first circle is under 'Not at all', the second is under 'Some', and the third is under 'A lot'. There are two short horizontal lines extending from the left side of the first circle and one short horizontal line extending from the left side of the second circle.

- | | | | | |
|---------|---|-----------------------|-----------------------|-----------------------|
| ATBG13A | a) Students lacking prerequisite knowledge or skills ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ATBG13B | b) Students suffering from lack of basic nutrition ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ATBG13C | c) Students suffering from not enough sleep ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ATBG13D | d) Students absent from class ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ATBG13E | e) Disruptive students ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ATBG13F | f) Uninterested students ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ATBG13G | g) Students with mental, emotional, or psychological impairment ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ATBG13H | h) Students with difficulties understanding the language of instruction ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Teaching Mathematics to the TIMSS Class

M1

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

ATBM01

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 often do you ask students to do the following?

Check one circle for each line.

Every or almost every lesson

About half the lessons

Some lessons

Never

- | | | | | | |
|---------|---|-----------------------|-----------------------|-----------------------|-----------------------|
| ATBM02A | a) Listen to me explain new mathematics content ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ATBM02B | b) Listen to me explain how to solve problems ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ATBM02C | c) Memorize rules, procedures, and facts ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ATBM02D | d) Practice procedures on their own ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ATBM02E | e) Apply what they have learned to new problem situations on their own ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ATBM02F | f) Work problems together in the whole class with direct guidance from me ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ATBM02G | g) Work in mixed ability groups -- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ATBM02H | h) Work in same ability groups -- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Using Calculators and Computers for Teaching Mathematics to the TIMSS Class

M3

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

ATBM03

Check one circle only.

Yes, with unrestricted use ---

Yes, with restricted use ---

No, calculators are not permitted ---

M4

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

ATBM04A

Check one circle only.

Yes ---

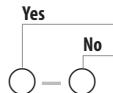
No --- →

(If No, go to #M5)

If Yes,

B. What access do the students have to computers?

Check one circle for each line.



ATBM04BA

a) Each student has a computer -----

—

ATBM04BB

b) The class has computers that students can share -----

—

ATBM04BC

c) The school has computers that the class can use sometimes -----

—

C. How often do you do activities on computers during mathematics lessons to support learning for:

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

ATBM04CA

a) Whole class ----- — — —

ATBM04CB

b) Low-performing students ----- — — —

ATBM04CC

c) High-performing students ----- — — —

ATBM04CD

d) Students with special needs ----- — — —

Mathematics Topics Taught to the TIMSS Class

M5

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

- ATBM05AA a) Concepts of whole numbers, including place value and ordering -----
- ATBM05AB b) Adding, subtracting, multiplying, and dividing with whole numbers -----
- ATBM05AC c) Concepts of multiples and factors; odd and even numbers -----
- ATBM05AD d) Number sentences (finding the missing number, representing problem situations with number sentences) -----
- ATBM05AE e) Number patterns (extending number patterns and finding missing terms) -----
- ATBM05AF f) Concepts of fractions, including representing, comparing and ordering, adding and subtracting simple fractions -----
- ATBM05AG g) Concepts of decimals, including place value and ordering, adding and subtracting with decimals -----

B. Measurement and Geometry

- ATBM05BA a) Solving problems involving length, including measuring and estimating -----
- ATBM05BB b) Solving problems involving mass, volume, and time -----
- ATBM05BC c) Finding and estimating perimeter, area, and volume -----
- ATBM05BD d) Parallel and perpendicular lines -----
- ATBM05BE e) Comparing and drawing angles -----
- ATBM05BF f) Elementary properties of common geometric shapes -----
- ATBM05BG g) Three-dimensional shapes, including relationships with their two-dimensional representations -----

C. Data

- ATBM05CA a) Reading and interpreting data from tables, pictographs, bar graphs, line graphs, and pie charts -----
- ATBM05CB b) Organizing and representing data to help answer questions -----
- ATBM05CC c) Drawing conclusions from data displays -----

Mathematics Homework for the TIMSS Class

M6

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

ATBM06A

Check one circle only.

- I do not assign mathematics homework --- 
 Less than once a week ---
 1 or 2 times a week ---
 3 or 4 times a week ---
 Every day ---

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.)

ATBM06B

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.



ATBM06CA

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

ATBM06CB

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

ATBM06CC

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

Mathematics Assessment of the TIMSS Class

M7

How much importance do you place on the following assessment strategies in mathematics?

Check one circle for each line.



ATBM07A

- a) Observing students as they work -----

ATBM07B

- b) Asking students to answer questions during class -----

ATBM07C

- c) Short, regular written assessments -----

ATBM07D

- d) Longer tests (e.g., unit tests or exams) -----

ATBM07E

- e) Long-term projects -----

M8

About how often do <fourth grade> students in this class take mathematics tests on computers or tablets?

ATBM08

Check one circle only.

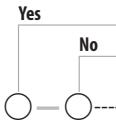
- More than once a month ---
 Once a month ---
 Twice a year --
 Once a year ---
 Never --

Professional Development to Teach Mathematics

M9

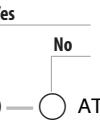
A. In the past two years, have you participated in professional development in any of the following?

Check **one** circle for each line.



B. Do you need future professional development in any of the following?

Check **one** circle for each line.



- | | | |
|----------|--|----------|
| ATBM09AA | a) Mathematics content ----- <input type="radio"/> <input checked="" type="radio"/> ----- <input type="radio"/> | ATBM09BA |
| ATBM09AB | b) Mathematics pedagogy/instruction----- <input type="radio"/> <input checked="" type="radio"/> ----- <input type="radio"/> <input checked="" type="radio"/> ATBM09BB | |
| ATBM09AC | c) Mathematics curriculum-- <input type="radio"/> <input checked="" type="radio"/> ----- <input type="radio"/> <input checked="" type="radio"/> ATBM09BC | |
| ATBM09AD | d) Integrating technology into mathematics instruction----- <input type="radio"/> <input checked="" type="radio"/> ----- <input type="radio"/> <input checked="" type="radio"/> ATBM09BD | |
| ATBM09AE | e) Improving students' critical thinking or problem solving skills----- <input type="radio"/> <input checked="" type="radio"/> ----- <input type="radio"/> <input checked="" type="radio"/> ATBM09BE | |
| ATBM09AF | f) Mathematics assessment - <input type="radio"/> <input checked="" type="radio"/> ----- <input type="radio"/> <input checked="" type="radio"/> ATBM09BF | |
| ATBM09AG | g) Addressing individual students' needs----- <input type="radio"/> <input checked="" type="radio"/> ----- <input type="radio"/> <input checked="" type="radio"/> ATBM09BG | |

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?

ATBM10

Check **one** circle only.

- | | |
|------------------------|-----------------------|
| None---- | <input type="radio"/> |
| Less than 6 hours---- | <input type="radio"/> |
| 6–15 hours---- | <input type="radio"/> |
| 16–35 hours---- | <input type="radio"/> |
| More than 35 hours---- | <input type="radio"/> |

Teaching Science to the TIMSS Class

S1

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

ATBS01A

Check **one** circle only.

- Yes ---
No ---

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

ATBS01B

minutes per week

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

S2

- 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.

Every or almost every lesson

About half the lessons

Some lessons

Never

- ATBS02A a) Listen to me explain new science content -----
- ATBS02B b) Observe natural phenomena such as the weather or a plant growing and describe what they see -----
- ATBS02C c) Watch me demonstrate an experiment or investigation ---
- ATBS02D d) Design or plan experiments or investigations -----
- ATBS02E e) Conduct experiments or investigations -----
- ATBS02F f) Present data from experiments or investigations -----
- ATBS02G g) Interpret data from experiments or investigations -----
- ATBS02H h) Use evidence from experiments or investigations to support conclusions -----
- ATBS02I i) Read their textbooks or other resource materials -----
- ATBS02J j) Have students memorize facts and principles -----
- ATBS02K k) Do field work outside the class
- ATBS02L l) Work in mixed ability groups --
- ATBS02M m) Work in same ability groups --

Using Computers for Teaching Science to the TIMSS Class

S3

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

ATBS03A

Check **one** circle only.

- Yes ---
- No --- →
(If No, go to #S4)

If Yes,

B. What access do the students have to computers?

Check **one** circle for each line.

- | ATBS03BA | Yes | No |
|--|-----------------------|-----------------------|
| a) Each student has a computer ----- | <input type="radio"/> | <input type="radio"/> |
| ATBS03BB | | |
| b) The class has computers that students can share ----- | <input type="radio"/> | <input type="radio"/> |
| ATBS03BC | | |
| c) The school has computers that the class can use sometimes ----- | <input type="radio"/> | <input type="radio"/> |

C. How often do you do activities on computers during science lessons to support learning for:

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 | | | | |
| ATBS03CA | | | | |
| a) Whole class ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ATBS03CB | | | | |
| b) Low-performing students ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ATBS03CC | | | | |
| c) High-performing students ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ATBS03CD | | | | |
| d) Students with special needs ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Science Topics Taught to the TIMSS Class

S4

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.

| Mostly taught before this year | Mostly taught this year | Not yet taught or just introduced |
|--------------------------------|-------------------------|-----------------------------------|
|--------------------------------|-------------------------|-----------------------------------|

A. Life Science

ATBS04AA a) Physical and behavioral characteristics of living things and major groups of living things (e.g., mammals, birds, insects, flowering plants) -----

ATBS04AB b) Major body structures and their functions in humans, other animals, and plants -----

ATBS04AC c) Life cycles of common plants and animals (e.g., flowering plants, butterflies, frogs) -----

ATBS04AD d) Characteristics of plants and animals that are inherited -----

ATBS04AE e) Interactions between organisms and their environments (e.g., physical features and behaviors that help living things survive in their environments) -----

ATBS04AF f) Relationships in ecosystems (e.g., simple food chains, predator-prey relationships, competition) -----

ATBS04AG g) Human health (transmission and prevention of diseases, everyday behaviors that promote good health) -----

B. Physical Science

ATBS04BA a) States of matter (solid, liquid, gas) and their properties (volume, shape) -----

ATBS04BB b) Classifying materials based on physical properties (e.g., weight/mass, volume, state of matter, conductivity of heat or electricity) -----

ATBS04BC c) Mixtures, including methods for separating a mixture into its components (e.g., sifting, filtering, evaporation, using a magnet) -----

ATBS04BD d) Properties of magnets (e.g., like poles repel and opposite poles attract, magnets can attract some objects) -----

ATBS04BE e) Physical changes in everyday life (e.g., changes of state, dissolving) -----

ATBS04BF f) Chemical changes in everyday life (e.g., decaying, burning, rusting, cooking) -----

ATBS04BG g) Common sources of energy (e.g., the Sun, wind, oil) and uses of energy (heating and cooling homes, providing light) -----

ATBS04BH h) Light and sound in everyday life (e.g., shadows and reflections, vibrating objects make sound) -----

ATBS04BI i) Heat transfer (e.g., energy flows from a hot object to a colder object) -----

ATBS04BJ j) Electricity and simple electrical circuits (e.g., a circuit must be complete to work correctly) -----

ATBS04BK k) Forces that cause objects to move (e.g., gravity, pushing/pulling) or change their motion (e.g., friction) -----

ATBS04BL l) Simple machines (e.g., levers, pulleys, wheels, ramps) that help make motion easier -----



S4 (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.

| |
|-----------------------------------|
| Mostly taught before this year |
| Mostly taught this year |
| Not yet taught or just introduced |

C. Earth Science

- ATBS04CA a) Physical makeup of Earth's surface (e.g., land and water in unequal proportions, sources of fresh and salt water) -----
- ATBS04CB b) Earth's resources used in everyday life (e.g., water, wind, soil, forests, oil, natural gas, minerals) -----
- ATBS04CC c) Changes in Earth's surface over time (e.g., mountain building, weathering, erosion) -----
- ATBS04CD d) Fossils and what they can tell us about past conditions on Earth -----
- ATBS04CE e) Weather and climate (e.g., daily, seasonal, and locational variations versus long term trends) -----
- ATBS04CF f) Objects in the Solar System (the Sun, the Earth, the Moon, and other planets) and their movements -----
- ATBS04CG g) Earth's motion and related patterns observed on Earth (e.g., day and night, seasons) -----

Science Homework for the TIMSS Class

S5

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

ATBS05A

Check one circle only.

- I do not assign science homework --- 
- (Go to #S6)
- Less than once a week ---
- 1 or 2 times a week ---
- 3 or 4 times a week ---
- Every day ---

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.)

ATBS05B

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

ATBS05CA

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

ATBS05CB

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

ATBS05CC

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

Science Assessment of the TIMSS Class

S6

How much importance do you place on the following assessment strategies in science?

Check one circle for each line.

A Lot

Some

None

ATBS06A

- a) Observing students as they work -----

ATBS06B

- b) Asking students to answer questions during class -----

ATBS06C

- c) Short, regular written assessments -----

ATBS06D

- d) Longer tests (e.g., unit tests or exams) -----

ATBS06E

- e) Long-term projects -----

S7

About how often do <fourth grade> students in this class take science tests on computers or tablets?

ATBS07

Check one circle only.

More than once a month ---

Once a month ---

Twice a year --

Once a year ---

Never --

Professional Development to Teach Science

S8

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

Check **one** circle for each line.

- | | |
|---|--|
| ATBS08AA a) Science content ----- <input type="radio"/> <input checked="" type="radio"/> Yes <input type="radio"/> No | ATBS08BA <input type="radio"/> <input checked="" type="radio"/> Yes <input type="radio"/> No |
| ----- | |
| ATBS08AB b) Science pedagogy/instruction ----- <input type="radio"/> <input checked="" type="radio"/> Yes <input type="radio"/> No | ATBS08BB <input type="radio"/> <input checked="" type="radio"/> Yes <input type="radio"/> No |
| ----- | |
| ATBS08AC c) Science curriculum ----- <input type="radio"/> <input checked="" type="radio"/> Yes <input type="radio"/> No | ATBS08BC <input type="radio"/> <input checked="" type="radio"/> Yes <input type="radio"/> No |
| ----- | |
| ATBS08AD d) Integrating technology into science instruction ----- <input type="radio"/> <input checked="" type="radio"/> Yes <input type="radio"/> No | ATBS08BD <input type="radio"/> <input checked="" type="radio"/> Yes <input type="radio"/> No |
| ----- | |
| ATBS08AE e) Improving students' critical thinking or inquiry skills ----- <input type="radio"/> <input checked="" type="radio"/> Yes <input type="radio"/> No | ATBS08BE <input type="radio"/> <input checked="" type="radio"/> Yes <input type="radio"/> No |
| ----- | |
| ATBS08AF f) Science assessment ----- <input type="radio"/> <input checked="" type="radio"/> Yes <input type="radio"/> No | ATBS08BF <input type="radio"/> <input checked="" type="radio"/> Yes <input type="radio"/> No |
| ----- | |
| ATBS08AG g) Addressing individual students' needs ----- <input type="radio"/> <input checked="" type="radio"/> Yes <input type="radio"/> No | ATBS08BG <input type="radio"/> <input checked="" type="radio"/> Yes <input type="radio"/> No |
| ----- | |
| ATBS08AH h) Integrating science with other subjects (e.g., mathematics, technology) ----- <input type="radio"/> <input checked="" type="radio"/> Yes <input type="radio"/> No | ATBS08BH <input type="radio"/> <input checked="" type="radio"/> Yes <input type="radio"/> No |

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---- | <input type="radio"/> |
| Less than 6 hours---- | <input type="radio"/> |
| 6–15 hours---- | <input type="radio"/> |
| 16–35 hours---- | <input type="radio"/> |
| More than 35 hours---- | <input type="radio"/> |

Thank You

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



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<Grade 4>



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SECTION 1.5: SCHOOL QUESTIONNAIRE GRADE 4

TIMSS 2019 USER GUIDE FOR THE
INTERNATIONAL DATABASE



Exhibit 1.5: International Context Variables for the TIMSS 2019 School Questionnaire (Grade 4)

| TIMSS 2019 Question Number | TIMSS 2019 Variable Name | TIMSS 2019 Variable Description | TIMSS 2015 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, 2019>? | ACBG01 | |
| ScQ-02 | ASBG02 | What is the total enrollment of <fourth grade> students in your school as of <first day of month TIMSS testing begins, 2019>? | ASBG02 | |
| 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 | |
| ScQ-05B | ACBG05B | Which best describes the immediate area in which your school is located? | ACBG05B | |
| ScQ-06A | ACBG06A | For the <fourth grade> students in your school: How many days per year is your school open for instruction? | ACBG08A | |
| ScQ-06B | ACBG06B | For the <fourth grade> students in your school: What is the total instructional time, excluding breaks, in a typical day? (minutes) | ACBG08B | |
| ScQ-06C | ACBG06C | For the <fourth grade> students in your school: In one calendar week, how many days is the school open for instruction? | ACBG08C | |
| ScQ-07 | ACBG07 | How many computers (including tablets) does your school have for use by <fourth grade> students? | ACBG11 | |
| ScQ-08A | ACBG08A | Does your school have a science laboratory that can be used by <fourth grade> students? | ACBG12A | |
| ScQ-08B | ACBG08B | Do teachers usually have assistance available when students are conducting science experiments? | ACBG12B | |
| ScQ-09 | ACBG09 | Does your school use an online learning management system to support learning (e.g., teacher-student communication, management of grades, student access to course materials)? | | |
| ScQ-10A | ACBG10A | Does your school have a school library? | ACBG13 | |
| ScQ-10B | ACBG10B | Approximately how many books (print) with different titles does your school library have (exclude magazines and periodicals)? | ACBG13AA | Modified wording and response options in 2019 |
| ScQ-11 | ACBG11 | Does your school have classroom libraries? | | |
| ScQ-12 | ACBG12 | Does your school provide students access to digital learning resources (e.g., books, videos)? | | |
| ScQ-13Aa | ACBG13AA | How much is your school's capacity to provide instruction affected by a shortage or inadequacy of the following? General School Resources: Instructional materials | ACBG14AA | |
| ScQ-13Ab | ACBG13AB | How much is your school's capacity to provide instruction affected by a shortage or inadequacy of the following? General School Resources: Supplies | ACBG14AB | |
| ScQ-13Ac | ACBG13AC | 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 | ACBG14AC | |
| ScQ-13Ad | ACBG13AD | 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 | ACBG14AD | |

Exhibit 1.5: International Context Variables for the TIMSS 2019 School Questionnaire (Grade 4)

| TIMSS 2019 Question Number | TIMSS 2019 Variable Name | TIMSS 2019 Variable Description | TIMSS 2015 Variable Name | Notes |
|-------------------------------------|-----------------------------------|--|-----------------------------------|-------|
| ScQ-13Ae | ACBG13AE | How much is your school's capacity to provide instruction affected by a shortage or inadequacy of the following? General School Resources: Instructional space | ACBG14AE | |
| ScQ-13Af | ACBG13AF | 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 | ACBG14AF | |
| ScQ-13Ag | ACBG13AG | 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 | ACBG14AG | |
| ScQ-13Ah | ACBG13AH | 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 | ACBG14AH | |
| ScQ-13Ai | ACBG13AI | 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 | ACBG14AI | |
| ScQ-13Ba | ACBG13BA | 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 | ACBG14BA | |
| ScQ-13Bb | ACBG13BB | 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 | ACBG14BB | |
| ScQ-13Bc | ACBG13BC | 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 | ACBG14BC | |
| ScQ-13Bd | ACBG13BD | 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 | ACBG14BD | |
| ScQ-13Be | ACBG13BE | 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 | ACBG14BE | |
| ScQ-13Ca | ACBG13CA | 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 | ACBG14CA | |
| ScQ-13Cb | ACBG13CB | 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 | ACBG14CB | |
| ScQ-13Cc | ACBG13CC | 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 | ACBG14CC | |
| ScQ-13Cd | ACBG13CD | 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 | ACBG14CD | |
| ScQ-14a | ACBG14A | How would you characterize each of the following within your school? Teachers' understanding of the school's curricular goals | ACBG15A | |
| ScQ-14b | ACBG14B | How would you characterize each of the following within your school? Teachers' degree of success in implementing the school's curriculum | ACBG15B | |

Exhibit 1.5: International Context Variables for the TIMSS 2019 School Questionnaire (Grade 4)

| TIMSS 2019 Question Number | TIMSS 2019 Variable Name | TIMSS 2019 Variable Description | TIMSS 2015 Variable Name | Notes |
|-------------------------------------|-----------------------------------|--|-----------------------------------|-----------------------------|
| ScQ-14c | ACBG14C | How would you characterize each of the following within your school? Teachers' expectations for student achievement | ACBG15C | |
| ScQ-14d | ACBG14D | How would you characterize each of the following within your school? Teachers' ability to inspire students | ACBG15E | |
| ScQ-14e | ACBG14E | How would you characterize each of the following within your school? Parental involvement in school activities | ACBG15F | |
| ScQ-14f | ACBG14F | How would you characterize each of the following within your school? Parental commitment to ensure that students are ready to learn | ACBG15G | |
| ScQ-14g | ACBG14G | How would you characterize each of the following within your school? Parental expectations for student achievement | ACBG15H | |
| ScQ-14h | ACBG14H | How would you characterize each of the following within your school? Parental support for student achievement | ACBG15I | |
| ScQ-14i | ACBG14I | How would you characterize each of the following within your school? Students' desire to do well in school | ACBG15K | |
| ScQ-14j | ACBG14J | How would you characterize each of the following within your school? Students' ability to reach school's academic goals | ACBG15L | |
| ScQ-14k | ACBG14K | How would you characterize each of the following within your school? Students' respect for classmates who excel academically | ACBG15M | Modified wording in 2019 |
| ScQ-15a | ACBG15A | To what degree is each of the following a problem among <fourth grade> students in your school? Arriving late at school | ACBG16A | |
| ScQ-15b | ACBG15B | To what degree is each of the following a problem among <fourth grade> students in your school? Absenteeism | ACBG16B | |
| ScQ-15c | ACBG15C | To what degree is each of the following a problem among <fourth grade> students in your school? Classroom disturbance | ACBG16C | |
| ScQ-15d | ACBG15D | To what degree is each of the following a problem among <fourth grade> students in your school? Cheating | ACBG16D | |
| ScQ-15e | ACBG15E | To what degree is each of the following a problem among <fourth grade> students in your school? Profanity | ACBG16E | |
| ScQ-15f | ACBG15F | To what degree is each of the following a problem among <fourth grade> students in your school? Vandalism | ACBG16F | |
| ScQ-15g | ACBG15G | To what degree is each of the following a problem among <fourth grade> students in your school? Theft | ACBG16G | |
| ScQ-15h | ACBG15H | To what degree is each of the following a problem among <fourth grade> students in your school? Intimidation or verbal abuse among students | ACBG16H | |
| ScQ-15i | ACBG15I | To what degree is each of the following a problem among <fourth grade> students in your school? Physical fights among students | ACBG16I | |
| ScQ-15j | ACBG15J | 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 | ACBG16J | |
| ScQ-16a | ACBG16A | To what degree is each of the following a problem among teachers in your school? Arriving late or leaving early | ACBG17A | |
| ScQ-16b | ACBG16B | To what degree is each of the following a problem among teachers in your school? Absenteeism | ACBG17B | |
| ScQ-17a | ACBG17A | 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 | ACBG18A | |
| ScQ-17b | ACBG17B | 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 | ACBG18B | |

Exhibit 1.5: International Context Variables for the TIMSS 2019 School Questionnaire (Grade 4)

| TIMSS 2019 Question Number | TIMSS 2019 Variable Name | TIMSS 2019 Variable Description | TIMSS 2015 Variable Name | Notes |
|---|---|---|---|--------------------------|
| ScQ-17c | ACBG17C | 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 | ACBG18C | |
| ScQ-17d | ACBG17D | 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 | ACBG18D | |
| ScQ-17e | ACBG17E | About how many of the students in your school can do the following when they begin the <first grade> of primary/elementary school? Write their names | | |
| ScQ-17f | ACBG17F | About how many of the students in your school can do the following when they begin the <first grade> of primary/elementary school? Write words other than their names | | |
| ScQ-17g | ACBG17G | 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 | ACBG18F | |
| ScQ-17h | ACBG17H | 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 | ACBG18G | |
| ScQ-17i | ACBG17I | 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 | ACBG18H | |
| ScQ-17j | ACBG17J | 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 | ACBG18I | |
| ScQ-17k | ACBG17K | 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 | ACBG18J | |
| ScQ-17l | ACBG17L | 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 | ACBG18K | |
| ScQ-18 | ACBG18 | By the end of this school year, how many years will you have been a principal altogether? | ACBG19 | |
| ScQ-19 | ACBG19 | By the end of this school year, how many years will you have been a principal at this school? | ACBG20 | |
| ScQ-20 | ACBG20 | What is the highest level of formal education you have completed? | ACBG21 | |
| ScQ-21a | ACBG21A | Do you hold the following qualifications or credentials in educational leadership? <Certificate or license> | | |
| ScQ-21b | ACBG21B | Do you hold the following qualifications or credentials in educational leadership? <Master's or equivalent level—ISCED Level 7> | ACBG22A | Modified wording in 2019 |
| ScQ-21c | ACBG21C | Do you hold the following qualifications or credentials in educational leadership? <Doctor or equivalent level—ISCED Level 8> | ACBG22B | Modified wording in 2019 |



Identification Label

TRENDS IN INTERNATIONAL MATHEMATICS AND SCIENCE STUDY

School Questionnaire

<Grade 4>

<TIMSS National Research Center Name>
<Address>

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TIMSS & PIRLS
International Study Center
Lynch School of Education
BOSTON COLLEGE

School Questionnaire

Your school has agreed to participate in TIMSS 2019 (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 2019

School Enrollment and Characteristics

ACBG01 1

What is the total enrollment of students in your school as of <first day of month TIMSS testing begins, 2019>?

_____ students
Write in the number.

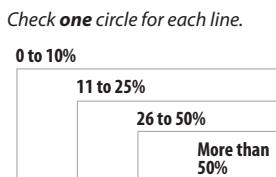
ACBG02 2

What is the total enrollment of <fourth grade> students in your school as of <first day of month TIMSS testing begins, 2019>?

_____ students
Write in the number.

3

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



ACBG03A a) Come from economically disadvantaged homes -----

ACBG03B b) Come from economically affluent homes-----

ACBG04 4

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 ---

Instructional Time

6

For the <fourth grade> students in your school:

- ACBG06A A. How many days per year is your school open for instruction?

_____ days

Write in the number.

- ACBG06B 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.

- ACBG06C 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 ---

Resources and Technology

ACBG07

7

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

_____ computers
Write in the number.

ACBG08A

8

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

Check one circle only.

Yes ---
No ---

ACBG08B

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

Check one circle only.

Yes ---
No ---

ACBG09

9

Does your school use an online learning management system to support learning (e.g., teacher-student communication, management of grades, student access to course materials)?

Check one circle only.

Yes ---
No ---

10

A. Does your school have a school library?

ACBG10A

Check one circle only.

Yes ---
No ---

(If No, go to #11)

If Yes,

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

ACBG10B

Check one circle only.

2,000 books or fewer ---
More than 2,000 books ---

11

Does your school have classroom libraries?

ACBG11

Check one circle only.

Yes ---
No ---

12

Does your school provide students access to digital learning resources (e.g., books, videos)?

ACBG12

Check one circle only.

Yes ---
No ---



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.

| | |
|------------|--|
| Not at all | |
| A little | |
| Some | |
| A lot | |

A. General School Resources

- ACBG13AA a) Instructional materials (e.g., textbooks) -----
- ACBG13AB b) Supplies (e.g., papers, pencils, materials) -----
- ACBG13AC c) School buildings and grounds -----
- ACBG13AD d) Heating/cooling and lighting systems -----
- ACBG13AE e) Instructional space (e.g., classrooms) -----
- ACBG13AF f) Technologically competent staff -----
- ACBG13AG g) Audio-visual resources for delivery of instruction (e.g., interactive white boards, digital projectors) -----
- ACBG13AH h) Computer technology for teaching and learning (e.g., computers or tablets for student use) -----
- ACBG13AI i) Resources for students with disabilities-----

Check one circle for each line.

| | |
|------------|--|
| Not at all | |
| A little | |
| Some | |
| A lot | |

B. Resources for Mathematics Instruction

- ACBG13BA a) Teachers with a specialization in mathematics -----
- ACBG13BB b) Computer software/applications for mathematics instruction -----
- ACBG13BC c) Library resources relevant to mathematics instruction ---
- ACBG13BD d) Calculators for mathematics instruction -----
- ACBG13BE e) Concrete objects or materials to help students understand quantities or procedures -----

C. Resources for Science Instruction

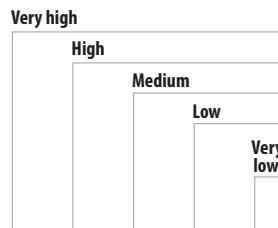
- ACBG13CA a) Teachers with a specialization in science -----
- ACBG13CB b) Computer software/applications for science instruction -----
- ACBG13CC c) Library resources relevant to science instruction -----
- ACBG13CD d) Science equipment and materials for experiments -----

School Emphasis on Academic Success

14

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

Check one circle for each line.



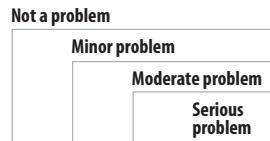
- ACBG14A a) Teachers' understanding of the school's curricular goals -----
- ACBG14B b) Teachers' degree of success in implementing the school's curriculum -----
- ACBG14C c) Teachers' expectations for student achievement -----
- ACBG14D d) Teachers' ability to inspire students -----
- ACBG14E e) Parental involvement in school activities -----
- ACBG14F f) Parental commitment to ensure that students are ready to learn -----
- ACBG14G g) Parental expectations for student achievement -----
- ACBG14H h) Parental support for student achievement -----
- ACBG14I i) Students' desire to do well in school -----
- ACBG14J j) Students' ability to reach school's academic goals -----
- ACBG14K k) Students' respect for classmates who excel academically -----

School Discipline and Safety

15

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

Check one circle for each line.

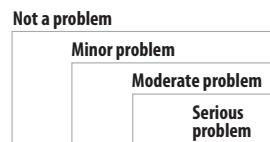


- ACBG15A a) Arriving late at school -----
- ACBG15B b) Absenteeism (i.e., unjustified absences) -----
- ACBG15C c) Classroom disturbance -----
- ACBG15D d) Cheating -----
- ACBG15E e) Profanity -----
- ACBG15F f) Vandalism -----
- ACBG15G g) Theft -----
- ACBG15H h) Intimidation or verbal abuse among students (including texting, emailing, etc.) -----
- ACBG15I i) Physical fights among students -----
- ACBG15J j) Intimidation or verbal abuse of teachers or staff (including texting, emailing, etc.) -----

16

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

Check one circle for each line.



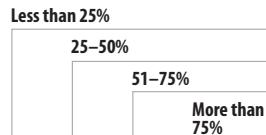
- ACBG16A a) Arriving late or leaving early -----
- ACBG16B b) Absenteeism -----

School Readiness

17

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.



- ACBG17A a) Recognize most of the letters of the alphabet -----
- ACBG17B b) Read some words -----
- ACBG17C c) Read sentences -----
- ACBG17D d) Write letters of the alphabet --
- ACBG17E e) Write their names -----
- ACBG17F f) Write words other than their names -----
- ACBG17G g) Count up to 100 or higher -----
- ACBG17H h) Recognize written numbers from 1-10 -----
- ACBG17I i) Recognize written numbers higher than 10 -----
- ACBG17J j) Write numbers from 1-10 -----
- ACBG17K k) Do simple addition -----
- ACBG17L l) Do simple subtraction -----

Principal Experience and Education

18

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

ACBG18

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

19

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

ACBG19

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

20

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

ACBG20

Check **one** circle only.

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

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

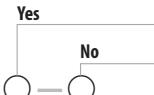
<Master's or equivalent level—ISCED Level 7> ---

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

21

Do you hold the following qualifications or credentials in educational leadership?

Check **one** circle for each line.



- ACBG21A a) <Certificate or license> -----
- ACBG21B b) <Master's or equivalent level—ISCED Level 7> -----
- ACBG21C c) <Doctor or equivalent level—ISCED Level 8> -----

7

<Grade 4> School Questionnaire

Thank You

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



BOSTON
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<Grade 4>



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SECTION 1.6: CURRICULUM QUESTIONNAIRE GRADE 4

TIMSS 2019 USER GUIDE FOR THE
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Lynch School of Education
BOSTON COLLEGE

Exhibit 1.6: International Context Variables for the TIMSS 2019 Curriculum Questionnaire (Grade 4)

| TIMSS 2019 Question Number | TIMSS 2019 Variable Name | TIMSS 2019 Variable Description |
|---|---|---|
| CQG-01 | GEN01 | What is your country's name for the grade(s) tested in TIMSS 2019, 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 what is the status of implementation? |
| CQG-04 | GEN04 | What are the ages (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-08A | GEN08A | State the official language(s) and describe the major language subgroups. |
| CQG-08B | GEN08B | Describe the languages of instruction for mathematics and science in the fourth and eighth grades. For example, is the instruction in these grades for these subjects presented to the students in their native language or in a second language? |
| CQG-09Aa | GEN09AA | Does your country provide universal ECED or PPE coverage? ECED programs for children under age 3 |
| CQG-09Ab | GEN09AB | Does your country provide universal ECED or PPE coverage? PPE programs for children age 3 or older |
| CQG-09B | GEN09B | How many years can children attend [ECED or PPE] programs altogether? |
| CQG-09BT | GEN09BT | How many years can children attend [ECED or PPE] programs altogether? Comments: |
| CQG-09Ca | GEN09CA | Does your country provide targeted ECED or PPE coverage? ECED programs for children under age 3 |
| CQG-09Cb | GEN09CB | Does your country provide targeted ECED or PPE coverage? PPE programs for children age 3 or older |
| CQG-09CT | GEN09CT | Does your country provide targeted ECED or PPE coverage? Please describe: |
| CQG-10Aa | GEN10AA | Does your country have national curriculum guidance documents for ECED or PPE programs? ECED programs for children under age 3 |
| CQG-10Ab | GEN10AB | Does your country have national curriculum guidance documents for ECED or PPE programs? PPE programs for children age 3 or older |
| CQG-10BaA | GEN10BAA | If Yes...Do the curriculum guidance documents cover any of the following topic areas? ECED programs: Socio-emotional development |
| CQG-10BaB | GEN10BAB | If Yes...Do the curriculum guidance documents cover any of the following topic areas? PPE programs: Socio-emotional development |
| CQG-10BbA | GEN10BBA | If Yes...Do the curriculum guidance documents cover any of the following topic areas? ECED programs: Physical development and health education |
| CQG-10BbB | GEN10BBB | If Yes...Do the curriculum guidance documents cover any of the following topic areas? PPE programs: Physical development and health education |
| CQG-10BcA | GEN10BCA | If Yes...Do the curriculum guidance documents cover any of the following topic areas? ECED programs: Oral language development and communication skills |
| CQG-10BcB | GEN10BCB | If Yes...Do the curriculum guidance documents cover any of the following topic areas? PPE programs: Oral language development and communication skills |
| CQG-10BdA | GEN10BDA | If Yes...Do the curriculum guidance documents cover any of the following topic areas? ECED programs: Reading and literacy skills |
| CQG-10BdB | GEN10BDB | If Yes...Do the curriculum guidance documents cover any of the following topic areas? PPE programs: Reading and literacy skills |
| CQG-10BeA | GEN10BEA | If Yes...Do the curriculum guidance documents cover any of the following topic areas? ECED programs: Mathematics and numeracy skills |

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| CQG-10BeB | GEN10BEB | If Yes...Do the curriculum guidance documents cover any of the following topic areas? PPE programs: Mathematics and numeracy skills |
| CQG-10BfA | GEN10BFA | 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-10BfB | GEN10BFB | 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-10BgA | GEN10BGA | If Yes...Do the curriculum guidance documents cover any of the following topic areas? ECED programs: Other |
| CQG-10BgB | GEN10BGB | If Yes...Do the curriculum guidance documents cover any of the following topic areas? PPE programs: Other |
| CQG-10BgT | GEN10BGT | If Yes...Do the curriculum guidance documents cover any of the following topic areas? ECED and PPE programs: Other, please specify below |
| CQG-10BT | GEN10BT | If Yes...Do the curriculum guidance documents cover any of the following topic areas? ECED and PPE programs: Comments: |
| CQG-11A | GEN11A | 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-11B | GEN11B | If Yes...Please describe the grades at which the exams are given, the subjects that are assessed, and the purpose of each exam. |
| 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 | Are there additional requirements for teachers of mathematics and science in the fourth grade? |
| CQG-12D | GEN12D | If Yes...What are they? |
| CQG-12E | GEN12E | In the last 10 years, has there been a change in the stated official policy about the requirements for being a teacher of students in the fourth grade? |
| CQG-12F | GEN12F | If Yes...How did the policy change, and what is the status of implementation? |
| 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). |

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| 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 | If there are additional requirements for teachers of mathematics and science in the eighth grade that are different than in the fourth grade, what are they? |
| CQG-13E | GEN13E | In the last 10 years, has there been a change in the stated official policy about the requirements for being a teacher of students in the eighth grade? |
| CQG-13F | GEN13F | If Yes...How did the policy change, and what is the status of implementation? |
| 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 |
| 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 | In the last 10 years, has there been a change in the stated official policy about the requirements for being a principal of a school with fourth grade students? |
| CQG-14D | GEN14D | If Yes...How did the policy change, and what is the status of implementation? |
| 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 | In the last 10 years, has there been a change in the stated official policy about the requirements for being a principal of a school with eighth grade students? |
| CQG-15E | GEN15E | If Yes...How did the policy change, and what is the status of implementation? |
| 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 2018/2019 mathematics curriculum introduced? |

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| CQM4-02AT | MA402AT | In what year was the 2018/2019 mathematics curriculum introduced? Comments (e.g., status of implementation: |
| CQM4-02B | MA402B | Is the mathematics curriculum currently being revised? |
| CQM4-02BTA | MA402BTA | If Yes...Please explain: |
| CQM4-02BTB | MA402BTB | If No...Comments: |
| CQM4-03 | MA403 | 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? |
| CQM4-03TA | MA403TA | If Yes...Please specify the percentage: |
| CQM4-03TB | MA403TB | 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: |
| CQM4-04a | MA404A | How is the mathematics curriculum implementation evaluated? Visits by inspectors |
| CQM4-04b | MA404B | How is the mathematics curriculum implementation evaluated? Research programs |
| CQM4-04c | MA404C | How is the mathematics curriculum implementation evaluated? School self-evaluation |
| CQM4-04d | MA404D | How is the mathematics curriculum implementation evaluated? National or regional examinations |
| CQM4-04e | MA404E | How is the mathematics curriculum implementation evaluated? Other |
| CQM4-04eT | MA404ET | How is the mathematics curriculum implementation evaluated? Other, please specify below: |
| CQM4-04T | MA404T | How is the mathematics curriculum implementation evaluated? Comments: |
| CQM4-05A | MA405A | Does the national curriculum contain statements/policies about the use of digital devices (e.g., computers, tablets, calculators) in grade 4 mathematics instruction? |
| CQM4-05AT | MA405AT | If Yes...What are the statements/policies? |
| CQM4-05B | MA405B | Does the national curriculum contain statements/policies about student use of digital devices (e.g., computers, tablets, calculators) in grade 4 mathematics tests or examinations? |
| CQM4-05BTA | MA405BTA | If Yes...What are the statements/policies? |
| CQM4-05BTB | MA405BTB | Does the national curriculum contain statements/policies about student use of digital devices (e.g., computers, tablets, calculators) in grade 4 mathematics tests or examinations? Comments: |
| CQM4-06 | MA406 | At what grade(s) are students first taught by mathematics subject specialists rather than general classroom teachers? |
| CQM4-07Aa | MA407AA | 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 |
| CQM4-07AaP to CQM4-07Aa12 | MA407AAP to MA407AA12 | 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 |
| CQM4-07Ab | MA407AB | 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 dividing with whole numbers |
| CQM4-07AbP to CQM4-07Ab12 | MA407ABP to MA407AB12 | 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 dividing with whole numbers |
| CQM4-07Ac | MA407AC | 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 |
| CQM4-07AcP to CQM4-07Ac12 | MA407ACP to MA407AC12 | Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Number: Number: Concepts of multiples and factors; odd and even numbers |
| CQM4-07Ad | MA407AD | 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 (finding the missing number, representing problem situations with number sentences) |

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| CQM4-07AdP to CQM4-07Ad12 | MA407ADP to MA407AD12 | Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Number: Number sentences (finding the missing number, representing problem situations with number sentences) |
| CQM4-07Ae | MA407AE | 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 (extending number patterns and finding missing terms) |
| CQM4-07AeP to CQM4-07Ae12 | MA407AEP to MA407AE12 | Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Number: Number patterns (extending number patterns and finding missing terms) |
| CQM4-07Af | MA407AF | 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, including representing, comparing and ordering, adding and subtracting simple fractions |
| CQM4-07AfP to CQM4-07Af12 | MA407AFP to MA407AF12 | Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Number: Concepts of fractions, including representing, comparing and ordering, adding and subtracting simple fractions |
| CQM4-07Ag | MA407AG | 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 |
| CQM4-07AgP to CQM4-07Ag12 | MA407AGP to MA407AG12 | 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 |
| CQM4-07AT | MA407AT | 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: |
| CQM4-07Ba | MA407BA | 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? Measurement and Geometry: Solving problems involving length, including measuring and estimating |
| CQM4-07BaP to CQM4-07Ba12 | MA407BAP to MA407BA12 | Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Measurement and Geometry: Solving problems involving length, including measuring and estimating |
| CQM4-07Bb | MA407BB | 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? Measurement and Geometry: Solving problems involving mass, volume, and time |
| CQM4-07BbP to CQM4-07Bb12 | MA407BBP to MA407BB12 | Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Measurement and Geometry: Solving problems involving mass, volume, and time |
| CQM4-07Bc | MA407BC | 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? Measurement and Geometry: Finding and estimating perimeter, area, and volume |
| CQM4-07BcP to CQM4-07Bc12 | MA407BCP to MA407BC12 | Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Measurement and Geometry: Finding and estimating perimeter, area, and volume |
| CQM4-07Bd | MA407BD | 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? Measurement and Geometry: Parallel and perpendicular lines |

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| CQM4-07BdP to CQM4-07Bd12 | MA407BDP to MA407BD12 | Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Measurement and Geometry: Parallel and perpendicular lines |
| CQM4-07Be | MA407BE | 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? Measurement and Geometry: Comparing and drawing angles |
| CQM4-07BeP to CQM4-07Be12 | MA407BEP to MA407BE12 | Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Measurement and Geometry: Comparing and drawing angles |
| CQM4-07Bf | MA407BF | 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? Measurement and Geometry: Elementary properties of common geometric shapes |
| CQM4-07BfP to CQM4-07Bf12 | MA407BFP to MA407BF12 | Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Measurement and Geometry: Elementary properties of common geometric shapes |
| CQM4-07Bg | MA407BG | 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? Measurement and Geometry: Three-dimensional shapes, including relationships with their two-dimensional representations |
| CQM4-07BgP to CQM4-07Bg12 | MA407BGP to MA407BG12 | Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Measurement and Geometry: Three-dimensional shapes, including relationships with their two-dimensional representations |
| CQM4-07BT | MA407BT | 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? Measurement and Geometry topics: Comments: |
| CQM4-07Ca | MA407CA | 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: Reading and interpreting data from tables, pictographs, bar graphs, line graphs, and pie charts |
| CQM4-07CaP to CQM4-07Ca12 | MA407CAP to MA407CA12 | Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Data: Reading and interpreting data from tables, pictographs, bar graphs, line graphs, and pie charts |
| CQM4-07Cb | MA407CB | 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: Organizing and representing data to help answer questions |
| CQM4-07CbP to CQM4-07Cb12 | MA407CBP to MA407CB12 | Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Data: Organizing and representing data to help answer questions |
| CQM4-07Cc | MA407CC | 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: Drawing conclusions from data displays |
| CQM4-07CcP to CQM4-07Cc12 | MA407CCP to MA407CC12 | Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Data: Drawing conclusions from data displays |
| CQM4-07CT | MA407CT | 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 topics: Comments: |

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| CQS4-01 | SC401 | Does your country have a national curriculum that covers science instruction at the fourth grade of primary/elementary school? |
| CQS4-01TA | SC401TA | If Yes...Comments: |
| CQS4-01TB | 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? |
| CQS4-02A | SC402A | In what year was the 2018/2019 science curriculum introduced? |
| CQS4-02AT | SC402AT | In what year was the 2018/2019 science curriculum introduced? Comments (e.g., status of implementation): |
| CQS4-02B | SC402B | Is the science curriculum currently being revised? |
| CQS4-02BTA | SC402BTA | If Yes...Please explain: |
| CQS4-02BTB | SC402BTB | If No...Comments: |
| CQS4-03 | SC403 | 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? |
| CQS4-03TA | SC403TA | If Yes...Please specify the percentage |
| CQS4-03TB | SC403TB | 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: |
| CQS4-04a | SC404A | How is the science curriculum implementation evaluated? Visits by inspectors |
| CQS4-04b | SC404B | How is the science curriculum implementation evaluated? Research programs |
| CQS4-04c | SC404C | How is the science curriculum implementation evaluated? School self-evaluation |
| CQS4-04d | SC404D | How is the science curriculum implementation evaluated? National or regional examinations |
| CQS4-04e | SC404E | How is the science curriculum implementation evaluated? Other |
| CQS4-04eT | SC404ET | How is the science curriculum implementation evaluated? Other, please specify below: |
| CQS4-04T | SC404T | How is the science curriculum implementation evaluated? Comments: |
| CQS4-05 | SC405 | Does the national curriculum contain statements/policies about the use of digital devices (e.g., computers, tablets, calculators) in grade 4 science instruction? |
| CQS4-05T | SC405T | If Yes...What are the statements/policies? |
| CQS4-06 | SC406 | At what grade(s) are students first taught by science subject specialists rather than general classroom teachers? |
| CQS4-07Aa | SC407AA | 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: Physical and behavioral characteristics of living things and major groups of living things (e.g., mammals, birds, insects, flowering plants) |
| CQS4-07AaP to CQS4-07Aa12 | SC407AAP to SC407AA12 | Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Life Science: Physical and behavioral characteristics of living things and major groups of living things (e.g., mammals, birds, insects, flowering plants) |
| CQS4-07Ab | SC407AB | 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 |
| CQS4-07AbP to CQS4-07Ab12 | SC407ABP to SC407AB12 | 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 |
| CQS4-07Ac | SC407AC | 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 (e.g., flowering plants, butterflies, frogs) |
| CQS4-07AcP to CQS4-07Ac12 | SC407ACP to SC407AC12 | 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 (e.g., flowering plants, butterflies, frogs) |

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| TIMSS 2019 Question Number | TIMSS 2019 Variable Name | TIMSS 2019 Variable Description |
|-------------------------------------|-----------------------------------|---|
| CQS4-07Ad | SC407AD | 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 plants and animals that are inherited |
| CQS4-07AdP to CQS4-07Ad12 | SC407ADP to SC407AD12 | Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Life Science: Characteristics of plants and animals that are inherited |
| CQS4-07Ae | SC407AE | 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: Interactions between organisms and their environments (e.g., physical features and behaviors that help living things survive in their environments) |
| CQS4-07AeP to CQS4-07Ae12 | SC407AEP to SC407AE12 | Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Life Science: Interactions between organisms and their environments (e.g., physical features and behaviors that help living things survive in their environments) |
| CQS4-07Af | SC407AF | 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 ecosystems (e.g., simple food chains, predator-prey relationships, competition) |
| CQS4-07AfP to CQS4-07Af12 | SC407AFP to SC407AF12 | Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Life Science: Relationships in ecosystems (e.g., simple food chains, predator-prey relationships, competition) |
| CQS4-07Ag | SC407AG | 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, everyday behaviors that promote good health) |
| CQS4-07AgP to CQS4-07Ag12 | SC407AGP to SC407AG12 | 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, everyday behaviors that promote good health) |
| CQS4-07AT | SC407AT | 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: |
| CQS4-07Ba | SC407BA | 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 their properties (volume, shape) |
| CQS4-07BaP to CQS4-07Ba12 | SC407BAP to SC407BA12 | 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 their properties (volume, shape) |
| CQS4-07Bb | SC407BB | 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, state of matter, conductivity of heat or electricity) |
| CQS4-07BbP to CQS4-07Bb12 | SC407BBP to SC407BB12 | 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, state of matter, conductivity of heat or electricity) |
| CQS4-07Bc | SC407BC | Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Physical Science: Mixtures, including methods for separating a mixture into its components (e.g., sifting, filtering, evaporation, using a magnet) |
| CQS4-07BcP to CQS4-07Bc12 | SC407BCP to SC407BC12 | 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, including methods for separating a mixture into its components (e.g., sifting, filtering, evaporation, using a magnet) |

Exhibit 1.6: International Context Variables for the TIMSS 2019 Curriculum Questionnaire (Grade 4)

| TIMSS 2019 Question Number | TIMSS 2019 Variable Name | TIMSS 2019 Variable Description |
|-------------------------------------|-----------------------------------|---|
| CQS4-07Bd | SC407BD | 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 (e.g., like poles repel and opposite poles attract, magnets can attract some objects) |
| CQS4-07BdP to CQS4-07Bd12 | SC407BDP to SC407BD12 | 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 (e.g., like poles repel and opposite poles attract, magnets can attract some objects) |
| CQS4-07Be | SC407BE | Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Physical Science: Physical changes in everyday life (e.g., changes of state, dissolving) |
| CQS4-07BeP to CQS4-07Be12 | SC407BEP to SC407BE12 | 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: Physical changes in everyday life (e.g., changes of state, dissolving) |
| CQS4-07Bf | SC407BF | 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 (e.g., decaying, burning, rusting, cooking) |
| CQS4-07BfP to CQS4-07Bf12 | SC407BFP to SC407BF12 | 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 (e.g., decaying, burning, rusting, cooking) |
| CQS4-07Bg | SC407BG | 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 (e.g., the Sun, wind, oil) and uses of energy (heating and cooling homes, providing light) |
| CQS4-07BgP to CQS4-07Bg12 | SC407BGP to SC407BG12 | 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 (e.g., the Sun, wind, oil) and uses of energy (heating and cooling homes, providing light) |
| CQS4-07Bh | SC407BH | 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 (e.g., shadows and reflections, vibrating objects make sound) |
| CQS4-07BhP to CQS4-07Bh12 | SC407BHP to SC407BH12 | 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 (e.g., shadows and reflections, vibrating objects make sound) |
| CQS4-07Bi | SC407BI | Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Physical Science: Heat transfer (e.g., energy flows from a hot object to a colder object) |
| CQS4-07BiP to CQS4-07Bi12 | SC407BIP to SC407BI12 | 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: Heat transfer (e.g., energy flows from a hot object to a colder object) |
| CQS4-07Bj | SC407BJ | 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 electrical circuits (e.g., a circuit must be complete to work correctly) |
| CQS4-07BjP to CQS4-07Bj12 | SC407BJP to SC407BJ12 | 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 electrical circuits (e.g., a circuit must be complete to work correctly) |
| CQS4-07Bk | SC407BK | 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) or change their motion (e.g., friction) |
| CQS4-07BkP to CQS4-07Bk12 | SC407BKP to SC407BK12 | 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) or change their motion (e.g., friction) |

Exhibit 1.6: International Context Variables for the TIMSS 2019 Curriculum Questionnaire (Grade 4)

| TIMSS 2019 Question Number | TIMSS 2019 Variable Name | TIMSS 2019 Variable Description |
|-------------------------------------|-----------------------------------|--|
| CQS4-07BI | SC407BL | 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: Simple machines (e.g., levers, pulleys, wheels, ramps) that help make motion easier |
| CQS4-07BIP to CQS4-07BI12 | SC407BLP to SC407BL12 | Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Physical Science: Simple machines (e.g., levers, pulleys, wheels, ramps) that help make motion easier |
| CQS4-07BT | SC407BT | 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: |
| CQS4-07Ca | SC407CA | 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: Physical makeup of Earth's surface (e.g., land and water in unequal proportions, sources of fresh and salt water) |
| CQS4-07CaP to CQS4-07Ca12 | SC407CAP to SC407CA12 | Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Earth Science: Physical makeup of Earth's surface (e.g., land and water in unequal proportions, sources of fresh and salt water) |
| CQS4-07Cb | SC407CB | 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: Earth's resources used in everyday life (e.g., water, wind, soil, forests, oil, natural gas, minerals) |
| CQS4-07CbP to CQS4-07Cb12 | SC407CBP to SC407CB12 | 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 used in everyday life (e.g., water, wind, soil, forests, oil, natural gas, minerals) |
| CQS4-07Cc | SC407CC | 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: Changes in Earth's surface over time (e.g., mountain building, weathering, erosion) |
| CQS4-07CcP to CQS4-07Cc12 | SC407CCP to SC407CC12 | Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Earth Science: Changes in Earth's surface over time (e.g., mountain building, weathering, erosion) |
| CQS4-07Cd | SC407CD | 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: Fossils and what they can tell us about past conditions on Earth |
| CQS4-07CdP to CQS4-07Cd12 | SC407CDP to SC407CD12 | Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Earth Science: Fossils and what they can tell us about past conditions on Earth |
| CQS4-07Ce | SC407CE | 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: Weather and climate (e.g., daily, seasonal, and locational variations versus long term trends) |
| CQS4-07CeP to CQS4-07Ce12 | SC407CEP to SC407CE12 | Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Earth Science: Weather and climate (e.g., daily, seasonal, and locational variations versus long term trends) |
| CQS4-07Cf | SC407CF | 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 (the Sun, the Earth, the Moon, and other planets) and their movements |
| CQS4-07CfP to CQS4-07Cf12 | SC407CFP to SC407CF12 | 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 (the Sun, the Earth, the Moon, and other planets) and their movements |

Exhibit 1.6: International Context Variables for the TIMSS 2019 Curriculum Questionnaire (Grade 4)

| TIMSS 2019 Question Number | TIMSS 2019 Variable Name | TIMSS 2019 Variable Description |
|-------------------------------------|-----------------------------------|---|
| CQS4-07Cg | SC407CG | 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: Earth's motion and related patterns observed on Earth (e.g., day and night, seasons) |
| CQS4-07CgP to CQS4-07Cg12 | SC407CGP to SC407CG12 | Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Earth Science: Earth's motion and related patterns observed on Earth (e.g., day and night, seasons) |
| CQS4-07CT | SC407CT | 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: |



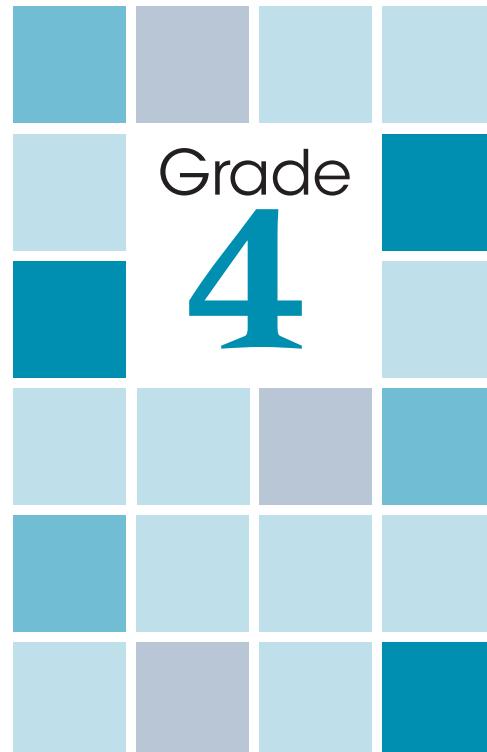
TIMSS

2019

TIMSS 2019

Curriculum Questionnaire

Fourth Grade



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TIMSS 2019 **Curriculum Questionnaire**

Please enter your user ID and password (Checksum).

User ID:

Password:



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TIMSS 2019 Curriculum Questionnaire – Fourth Grade

TIMSS 2019 Curriculum Questionnaire – Fourth Grade

The TIMSS 2019 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 October 30, 2019.

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." When you have completed the questionnaire, please make sure to click the "Submit" button to submit your answers.

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 2019 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 Hamburg (TIMSS email account): timss@iea-hamburg.de

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TIMSS 2019 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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TIMSS 2019 Curriculum Questionnaire – Fourth Grade - Grade Structure and Student Flow

GEN01

Grade Structure and Student Flow

G1. What is your country's name for the grade(s) tested in TIMSS 2019, in English (e.g., grade 4, grade 8)?

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TIMSS 2019 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 2019 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 what is the status of implementation?

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TIMSS 2019 Curriculum Questionnaire – Fourth Grade - Grade Structure and Student Flow

GEN04

G4. What are the ages (or grades) of compulsory education in your country?

Example: "Ages 6-16 (or Grades 1-9)."

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TIMSS 2019 Curriculum Questionnaire – Fourth Grade - Grade Structure and Student Flow

GEN05

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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TIMSS 2019 Curriculum Questionnaire – Fourth Grade - Grade Structure and Student Flow

GEN06

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

GEN06T

Please describe:

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TIMSS 2019 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

GEN07T

Please describe:

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TIMSS 2019 Curriculum Questionnaire – Fourth Grade - Languages of Instruction

GEN08A

Languages of Instruction

G8. A. State the official language(s) and describe the major language subgroups.

GEN08B

B. Describe the languages of instruction for mathematics and science in the fourth and eighth grades. For example, is the instruction in these grades for these subjects presented to the students in their native language or in a second language?

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TIMSS 2019 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 age 3; and*
• *Pre-primary education (PPE) programs including Kindergarten for children age 3 or older.*

G9. 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.

GEN09AA
GEN09AB

Yes No

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

Check one circle only.

GEN09B
GEN09BT

- 1 year
 2 years
 3 years
 4 or more years

Comments:

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TIMSS 2019 Curriculum Questionnaire – Fourth Grade - Early Childhood Education

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 for each line.

Yes No

GEN09CA
GEN09CB

- a) ECED programs for children under age 3
b) PPE programs for children age 3 or older

GEN09CT

Please describe:

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TIMSS 2019 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 age 3; and*
• *Pre-primary education (PPE) programs including Kindergarten for children age 3 or older.*

G10. A. Does your country have national curriculum guidance documents for ECED or PPE programs?

Check one circle for each line.

GEN10AA
GEN10AB

Yes No

- a) ECED programs for children under age 3
b) PPE programs for children age 3 or older

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TIMSS 2019 Curriculum Questionnaire – Fourth Grade - Early Childhood Education

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.

GEN10BAA
 GEN10BBA
 GEN10BCA
 GEN10BDA
 GEN10BEA
 GEN10BFA
 GEN10BGA

GEN10BGT

| | 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"/> |

GEN09BT

Comments:

Comments:

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TIMSS 2019 Curriculum Questionnaire – Fourth Grade - Examinations

GEN11A

G11. 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?

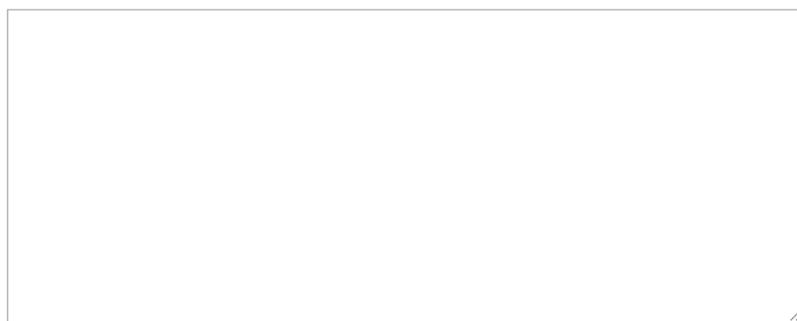
Check one circle only.

- Yes
 No

GEN11B

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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TIMSS 2019 Curriculum Questionnaire – Fourth Grade - Teacher Preparation

GEN12A

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."

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TIMSS 2019 Curriculum Questionnaire – Fourth Grade - Teacher Preparation

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.

GEN12BA

Yes

No

- a) Supervised practicum during the teacher education program.

If Yes...
How long is this period?

GEN12BAT

- b) Passing a qualifying examination (e.g., licensing, certification).

GEN12BB

- c) Completion of a probationary teaching period.

If Yes...
How long is this period?

GEN12BC

- d) Completion of a mentoring or induction program (e.g., experienced teachers work with novice teachers to provide instructional guidance).

GEN12BD

- e) Other
Please specify below:

GEN12BE

GEN12BET

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TIMSS 2019 Curriculum Questionnaire – Fourth Grade - Teacher Preparation

GEN12C

C. Are there additional requirements for teachers of mathematics and science in the fourth grade?

Check one circle only.

- Yes
 No

If Yes....

D. What are they?

GEN12D

E. In the last 10 years, has there been a change in the stated official policy about the requirements for being a teacher of students in the fourth grade?

Check one circle only.

- Yes
 No

If Yes....

F. How did the policy change, and what is the status of implementation?

Example: "A master's degree will be required in 2020; an oral examination has been required since 2018."

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TIMSS 2019 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

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?

GEN13B

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TIMSS 2019 Curriculum Questionnaire – Fourth Grade - Teacher Preparation

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. <i>If Yes...</i> How long is this period? | <input type="radio"/> | <input type="radio"/> |
| b) Passing a qualifying examination (e.g., licensing, certification). | <input type="radio"/> | <input type="radio"/> |
| c) Completion of a probationary teaching period. <i>If Yes...</i> How long is this period? | <input type="radio"/> | <input type="radio"/> |
| 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 Please specify below: | <input type="radio"/> | <input type="radio"/> |

GEN13D

D. If there are additional requirements for teachers of mathematics and science in the eighth grade that are different than in the fourth grade, what are they?

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TIMSS 2019 Curriculum Questionnaire – Fourth Grade - Teacher Preparation

GEN13E

E. In the last 10 years, has there been a change in the stated official policy about the requirements for being a teacher of students in the eighth grade?

Check one circle only.

- Yes
 No

If Yes....

F. How did the policy change, and what is the status of implementation?

GEN13F

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TIMSS 2019 Curriculum Questionnaire – Fourth Grade - Principal Preparation

GEN14A

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."

GEN14BA
GEN14BB
GEN14BC

GEN14BCT

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"/> |

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TIMSS 2019 Curriculum Questionnaire – Fourth Grade - Principal Preparation

GEN14C

C. In the last 10 years, has there been a change in the stated official policy about the requirements for being a principal of a school with fourth grade students?

Check one circle only.

- Yes
 No

If Yes....

GEN14D

D. How did the policy change, and what is the status of implementation?

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TIMSS 2019 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

If Yes....

GEN15B

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

- | | | |
|--|-----------------------|----------------------------------|
| a) Teaching experience | <input type="radio"/> | <input checked="" type="radio"/> |
| b) Completion of a specialized school leadership training program (including a school leadership degree program) | <input type="radio"/> | <input checked="" type="radio"/> |
| c) Other | <input type="radio"/> | <input checked="" type="radio"/> |

GEN15CB

Please specify below:

GEN15CC

GEN15CCT

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Grade 4

CURRICULUM QUESTIONNAIRE

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TIMSS 2019 Curriculum Questionnaire – Fourth Grade - Principal Preparation

GEN15D

D. In the last 10 years, has there been a change in the stated official policy about the requirements for being a principal of a school with eighth grade students?

Check **one** circle only.

- Yes
- No

If Yes....

GEN15E

E. How did the policy change, and what is the status of implementation?

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TIMSS 2019 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 2019—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 2019 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 2019—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.

MA401

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:

MA401TA

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?

MA401TB

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TIMSS 2019 Curriculum Questionnaire – Fourth Grade - About the Fourth Grade Mathematics Curriculum

MA402A

M2. A. In what year was the 2018/2019 mathematics curriculum introduced?

MA402AT

Comments (e.g., status of implementation):

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TIMSS 2019 Curriculum Questionnaire – Fourth Grade - About the Fourth Grade Mathematics Curriculum

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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TIMSS 2019 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 2019—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.

MA403

M3. 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

If Yes...

Please specify the percentage:

MA403TB

Comments:

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Grade 4
CURRICULUM QUESTIONNAIRE

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TIMSS 2019 Curriculum Questionnaire – Fourth Grade - Curriculum Specifications

M4. How is the mathematics curriculum implementation evaluated?

Check one circle for each line.

MA404A
MA404B
MA404C
MA404D
MA404E

MA404ET

| | 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"/> |

MA404T

Comments:

Comments:

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TIMSS 2019 Curriculum Questionnaire – Fourth Grade - Use of Digital Devices

Use of Digital Devices

This mathematics module refers to the national curriculum that was in effect for the fourth grade students assessed in TIMSS 2019—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.

MA405A

M5. A. Does the national curriculum contain statements/policies about the use of digital devices (e.g., computers, tablets, calculators) in grade 4 mathematics instruction?

Check one circle only.

- Yes
 No

If Yes...

What are the statements/policies?

MA405AT

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TIMSS 2019 Curriculum Questionnaire – Fourth Grade - Use of Digital Devices

MA405B

B. Does the national curriculum contain statements/policies about student use of digital devices (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?

MA405BTA

MA405BTB

Comments:

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TIMSS 2019 Curriculum Questionnaire – Fourth Grade - Specialist Mathematics Teachers

MA406

Specialist Mathematics Teachers

M6. At what grade(s) are students first taught by mathematics subject specialists rather than general classroom teachers?

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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 2019—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.

M7. (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.

| | A. Number | (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 |
| MA407AA | 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"/> |
| MA407AB | b) Adding, subtracting, multiplying, and 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"/> |
| MA407AC | 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"/> |
| MA407AD | d) Number sentences (finding the missing number, representing problem 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"/> |
| MA407AE | e) 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"/> |
| MA407AF | f) Concepts of fractions, including representing, comparing and ordering, adding and subtracting simple 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"/> |
| MA407AG | g) 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"/> |

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TIMSS 2019 Curriculum Questionnaire – Fourth Grade - Fourth Grade Mathematics Topics Covered

Comments:

ME407AT

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TIMSS 2019 Curriculum Questionnaire – Fourth Grade - Fourth Grade Mathematics Topics Covered

M7. (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.

| | B. Measurement and Geometry | (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 |
| MA407BA | a) Solving problems involving length, including measuring and estimating | <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"/> |
| MA407BB | b) Solving problems involving mass, volume, and 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"/> |
| MA407BC | c) Finding and estimating perimeter, area, and volume | <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"/> |
| MA407BD | d) 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"/> |
| MA407BE | e) 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"/> |
| MA407BF | f) 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"/> |
| MA407BG | g) Three-dimensional shapes, including relationships with 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"/> |

Comments:

MA407BT

MA407BAP-12
MA407BBP-12
MA407BCP-12
MA407BDP-12
MA407BEP-12
MA407BFP-12
MA407BGP-12

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TIMSS 2019 Curriculum Questionnaire – Fourth Grade - Fourth Grade Mathematics Topics Covered

M7. (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.

MA407CA
 MA407CB
 MA407CC
 MA407CT

Comments:

| | | | Grade(s) topic is expected to be taught preprimary (PP) through the end of upper secondary (G12) | | | | | | | | | | | | | | | |
|--|--|--|--|-----------------------------|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|-----|
| | | | Check the corresponding grade(s) for each topic. | | | | | | | | | | | | | | | |
| | | | Check one circle for each line. | | | | | | | | | | | | | | | |
| | | | 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 | | | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="checkbox"/> | |
| a) Reading and interpreting data from tables, pictographs, bar graphs, line graphs, and pie charts | | | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="checkbox"/> | |
| b) Organizing and representing data to help answer questions | | | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="checkbox"/> | |
| c) Drawing conclusions from data displays | | | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="checkbox"/> | |

MA407CAP-12
 MA407CBP-12
 MA407CCP-12

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TIMSS 2019 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 2019—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 2019 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 2019—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.

SC401

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:

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?

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Grade 4
CURRICULUM QUESTIONNAIRE

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TIMSS 2019 Curriculum Questionnaire – Fourth Grade - About the Fourth Grade Science Curriculum

SC402A

S2. A. In what year was the 2018/2019 science curriculum introduced?

SC402AT

Comments (e.g., status of implementation):

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TIMSS 2019 Curriculum Questionnaire – Fourth Grade - About the Fourth Grade Science Curriculum

SC402B

B. Is the science curriculum currently being revised?

Check one circle only.

- Yes
 No

If Yes...

Please explain:

SC402BTA

If No...
Comments:

SC402BTB

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TIMSS 2019 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 2019—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.

SC403

S3. 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:

SC403TA

SC403TB

Comments:

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TIMSS 2019 Curriculum Questionnaire – Fourth Grade - Curriculum Specifications

S4. How is the science curriculum implementation evaluated?

Check one circle for each line.

SC404A

Yes No

a) Visits by inspectors

SC404B

SC404C

SC404D

SC404E

e) Other
Please specify below:

SC404ET

SC404T

Comments:

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Grade 4
CURRICULUM QUESTIONNAIRE

45



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SECTION 1.6: CURRICULUM QUESTIONNAIRE – GRADE 4
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TIMSS 2019 Curriculum Questionnaire – Fourth Grade - Use of Digital Devices

Use of Digital Devices

This science module refers to the national curriculum that was in effect for the fourth grade students assessed in TIMSS 2019—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.

SC405

S5. Does the national curriculum contain statements/policies about the use of digital devices (e.g., computers, tablets, calculators) in grade 4 science instruction?

Check one circle only.

- Yes
 No

If Yes...

SC405T

What are the statements/policies?

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TIMSS 2019 Curriculum Questionnaire – Fourth Grade - Specialist Science Teachers

SC406

Specialist Science Teachers

S6. At what grade(s) are students first taught by science subject specialists rather than general classroom teachers?

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TIMSS 2019 Curriculum Questionnaire – Fourth Grade - Fourth Grade Science Topics Covered

SC407AT

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TIMSS 2019 Curriculum Questionnaire – Fourth Grade - Fourth Grade Science Topics Covered

S7. (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.

| | B. Physical Science | (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 |
| SC407BA | a) States of matter (solid, liquid, gas) and their properties (volume, shape) | <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"/> |
| SC407BB | b) Classifying materials based on physical properties (e.g., weight/mass, volume, state of matter, conductivity of heat or electricity) | <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"/> |
| SC407BC | c) Mixtures, including methods for separating 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"/> |
| SC407BD | d) Properties of magnets (e.g., like poles repel and opposite poles attract, 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"/> |
| SC407BE | e) Physical changes in everyday life (e.g., changes of state, dissolving) | <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"/> |
| SC407BF | f) 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"/> |
| SC407BG | g) Common sources of energy (e.g., the Sun, wind, oil) 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"/> |
| SC407BH | h) Light and sound in everyday life (e.g., shadows and reflections, 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"/> |

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TIMSS 2019 Curriculum Questionnaire – Fourth Grade - Fourth Grade Science Topics Covered

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SC407BT

SC407BIP-12

SC407B.JP-12

SC407BKP-12

SC407BI P-12

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TIMSS 2019 Curriculum Questionnaire – Fourth Grade - Fourth Grade Science Topics Covered

S7. (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.

| | C. Earth Science | (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 |
| SC407CA | a) Physical makeup of Earth's surface (e.g., land and water in unequal proportions, sources of fresh and salt water) | <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"/> | SC407CAP-12 |
| SC407CB | b) Earth's resources used in everyday life (e.g., water, wind, soil, forests, oil, natural gas, minerals) | <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"/> | SC407CBP-12 |
| SC407CC | c) Changes in Earth's surface over time (e.g., mountain building, weathering, erosion) | <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"/> | SC407CCP-12 |
| SC407CD | d) Fossils 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"/> | SC407CDP-12 |
| SC407CE | e) Weather and climate (e.g., daily, seasonal, and locational variations versus long term trends) | <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"/> | SC407CEP-12 |
| SC407CF | f) Objects in the Solar System (the Sun, the Earth, the Moon, and other planets) and their movements | <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"/> | SC407CFP-12 |
| SC407CG | g) Earth's motion and related patterns observed on Earth (e.g., day and night, seasons) | <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"/> | SC407CGP-12 |

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TIMSS 2019 Curriculum Questionnaire – Fourth Grade - Fourth Grade Science Topics Covered

SC407CT

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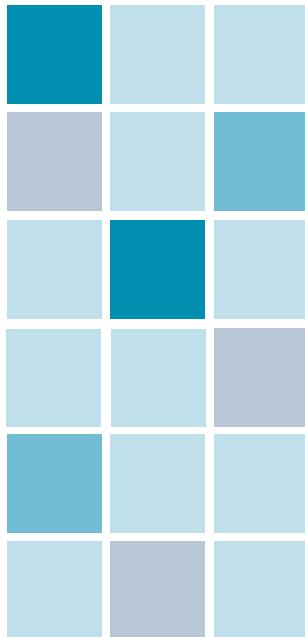
TIMSS 2019 Curriculum Questionnaire – Fourth Grade

Thank you for completing the TIMSS 2019 Curriculum Questionnaire.

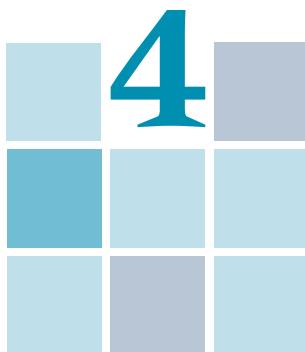
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Grade



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SECTION 2.1:

STUDENT QUESTIONNAIRE—

GENERAL/INTEGRATED

SCIENCE VERSION

GRADE 8

TIMSS 2019 USER GUIDE FOR THE
INTERNATIONAL DATABASE



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**Exhibit 2.1: International Context Variables for the TIMSS 2019 Student Questionnaire—General/Integrated Version
(Grade 8)**

| TIMSS 2019 Question Number | TIMSS 2019 Variable Name | TIMSS 2019 Variable Description | TIMSS 2015 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-05a | BSBG05A | Do you have any of these things at your home? A computer or tablet | BSBG06A, BSBG06B | Modified wording in 2019 |
| SQG-05b | BSBG05B | Do you have any of these things at your home? Study desk/table for your use | BSBG06C | |
| SQG-05c | BSBG05C | Do you have any of these things at your home? Your own room | BSBG06D | |
| SQG-05d | BSBG05D | Do you have any of these things at your home? Internet connection | BSBG06E | |
| SQG-05e | BSBG05E | Do you have any of these things at your home? Your own mobile phone | BSBG06F | |
| SQG-05f | BSBG05F | Do you have any of these things at your home? <country-specific indicator of wealth> | BSBG06H | |
| SQG-05g | BSBG05G | Do you have any of these things at your home? <country-specific indicator of wealth> | BSBG06I | |
| SQG-05h | BSBG05H | Do you have any of these things at your home? <country-specific indicator of wealth> | BSBG06J | |
| SQG-05i | BSBG05I | Do you have any of these things at your home? <country-specific indicator of wealth> | BSBG06K | |
| SQG-06A | BSBG06A | What is the highest level of education completed by your <parents/guardians>? <Parent/Guardian A> | BSBG07A | Modified wording and response options in 2019 |
| SQG-06B | BSBG06B | What is the highest level of education completed by your <parents/guardians>? <Parent/Guardian B> | BSBG07B | Modified wording and response options in 2019 |
| SQG-07 | BSBG07 | How far in your education do you expect to go? | BSBG08 | |
| SQG-08A | BSBG08A | Were your <parents/guardians> born in <country>? <Parent/Guardian A> | BSBG09A | Modified wording and response options in 2019 |
| SQG-08B | BSBG08B | Were your <parents/guardians> born in <country>? <Parent/Guardian B> | BSBG09B | Modified wording and response options in 2019 |
| SQG-09A | BSBG09A | Were you born in <country>? | BSBG10A | |
| SQG-09B | BSBG09B | If you were not born in <country>, how old were you when you came to <country>? | BSBG10B | |
| SQG-10 | BSBG10 | About how often are you absent from school? | BSBG11 | Modified response options in 2019 |
| SQG-11a | BSBG11A | How often do you feel this way when you arrive at school? I feel tired | | |
| SQG-11b | BSBG11B | How often do you feel this way when you arrive at school? I feel hungry | | |
| SQG-12a | BSBG12A | Do you use the Internet to do any of the following tasks for schoolwork (including classroom tasks, homework, studying outside of class)? Access the textbook or other course materials | BSBG14A | |
| SQG-12b | BSBG12B | Do you use the Internet to do any of the following tasks for schoolwork (including classroom tasks, homework, studying outside of class)? Access assignments posted online by my teacher | BSBG14B | |

Exhibit 2.1: International Context Variables for the TIMSS 2019 Student Questionnaire—General/Integrated Version (Grade 8)

| TIMSS 2019 Question Number | TIMSS 2019 Variable Name | TIMSS 2019 Variable Description | TIMSS 2015 Variable Name | Notes |
|----------------------------|--------------------------|--|--------------------------|--------------------------|
| SQG-12c | BSBG12C | Do you use the Internet to do any of the following tasks for schoolwork (including classroom tasks, homework, studying outside of class)? Collaborate with classmates on assignments or projects | BSBG14C | |
| SQG-12d | BSBG12D | Do you use the Internet to do any of the following tasks for schoolwork (including classroom tasks, homework, studying outside of class)? Communicate with the teacher | BSBG14D | |
| SQG-12e | BSBG12E | Do you use the Internet to do any of the following tasks for schoolwork (including classroom tasks, homework, studying outside of class)? Find information, articles, or tutorials to aid in understanding mathematics or science | BSBG14E BSBG14F | Modified wording in 2019 |
| SQG-12f | BSBG12F | Do you use the Internet to do any of the following tasks for schoolwork (including classroom tasks, homework, studying outside of class)? Access learning games or activities related to mathematics or science | | |
| SQG-13a | BSBG13A | What do you think about your school? Tell how much you agree with these statements. I like being in school | BSBG15A | |
| SQG-13b | BSBG13B | What do you think about your school? Tell how much you agree with these statements. I feel safe when I am at school | BSBG15B | |
| SQG-13c | BSBG13C | What do you think about your school? Tell how much you agree with these statements. I feel like I belong at this school | BSBG15C | |
| SQG-13d | BSBG13D | What do you think about your school? Tell how much you agree with these statements. Teachers at my school are fair to me | BSBG15E | |
| SQG-13e | BSBG13E | What do you think about your school? Tell how much you agree with these statements. I am proud to go to this school | BSBG15F | |
| SQG-14a | BSBG14A | 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? Said mean things about my physical appearance (e.g., my hair, my size) | | |
| SQG-14b | BSBG14B | 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? Spread lies about me | BSBG16C | |
| SQG-14c | BSBG14C | 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? Shared my secrets with others | | |
| SQG-14d | BSBG14D | 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? Refused to talk to me | | |
| SQG-14e | BSBG14E | 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? Insulted a member of my family | | |
| SQG-14f | BSBG14F | 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? Stole something from me | BSBG16D | |
| SQG-14g | BSBG14G | 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? Made me do things I didn't want to do | BSBG16F | |

**Exhibit 2.1: International Context Variables for the TIMSS 2019 Student Questionnaire—General/Integrated Version
(Grade 8)**

| TIMSS 2019 Question Number | TIMSS 2019 Variable Name | TIMSS 2019 Variable Description | TIMSS 2015 Variable Name | Notes |
|----------------------------|--------------------------|---|--------------------------|-------|
| SQG-14h | BSBG14H | 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? Sent me nasty or hurtful messages online | | |
| SQG-14i | BSBG14I | 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? Shared nasty or hurtful things about me online | | |
| SQG-14j | BSBG14J | 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? Shared embarrassing photos of me online | | |
| SQG-14k | BSBG14K | 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? Threatened me | BSBG16I | |
| SQG-14l | BSBG14L | 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? Physically hurt me | | |
| SQG-14m | BSBG14M | 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? Excluded me from their group (e.g., parties, messaging) | | |
| SQG-14n | BSBG14N | 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? Damaged something of mine on purpose | | |
| SQM-15 | BSBM15 | In mathematics lessons, how often do you work problems on your own? | | |
| SQM-16a | BSBM16A | How much do you agree with these statements about learning mathematics? I enjoy learning mathematics | BSBM17A | |
| SQM-16b | BSBM16B | How much do you agree with these statements about learning mathematics? I wish I did not have to study mathematics | BSBM17B | |
| SQM-16c | BSBM16C | How much do you agree with these statements about learning mathematics? Mathematics is boring | BSBM17C | |
| SQM-16d | BSBM16D | How much do you agree with these statements about learning mathematics? I learn many interesting things in mathematics | BSBM17D | |
| SQM-16e | BSBM16E | How much do you agree with these statements about learning mathematics? I like mathematics | BSBM17E | |
| SQM-16f | BSBM16F | How much do you agree with these statements about learning mathematics? I like any schoolwork that involves numbers | BSBM17F | |
| SQM-16g | BSBM16G | How much do you agree with these statements about learning mathematics? I like to solve mathematics problems | BSBM17G | |
| SQM-16h | BSBM16H | How much do you agree with these statements about learning mathematics? I look forward to mathematics class | BSBM17H | |
| SQM-16i | BSBM16I | How much do you agree with these statements about learning mathematics? Mathematics is one of my favorite subjects | BSBM17I | |
| SQM-17a | BSBM17A | How much do you agree with these statements about your mathematics lessons? I know what my teacher expects me to do | BSBM18A | |
| SQM-17b | BSBM17B | How much do you agree with these statements about your mathematics lessons? My teacher is easy to understand | BSBM18B | |
| SQM-17c | BSBM17C | How much do you agree with these statements about your mathematics lessons? My teacher has clear answers to my questions | BSBM18E | |

**Exhibit 2.1: International Context Variables for the TIMSS 2019 Student Questionnaire—General/Integrated Version
(Grade 8)**

| TIMSS 2019 Question Number | TIMSS 2019 Variable Name | TIMSS 2019 Variable Description | TIMSS 2015 Variable Name | Notes |
|----------------------------|--------------------------|---|--------------------------|-------|
| SQM-17d | BSBM17D | How much do you agree with these statements about your mathematics lessons? My teacher is good at explaining mathematics | BSBM18F | |
| SQM-17e | BSBM17E | How much do you agree with these statements about your mathematics lessons? My teacher does a variety of things to help us learn | BSBM18H | |
| SQM-17f | BSBM17F | How much do you agree with these statements about your mathematics lessons? My teacher links new lessons to what I already know | | |
| SQM-17g | BSBM17G | How much do you agree with these statements about your mathematics lessons? My teacher explains a topic again when we don't understand | | |
| SQM-18a | BSBM18A | How often do these things happen in your mathematics lessons? Students don't listen to what the teacher says | | |
| SQM-18b | BSBM18B | How often do these things happen in your mathematics lessons? There is disruptive noise | | |
| SQM-18c | BSBM18C | How often do these things happen in your mathematics lessons? It is too disorderly for students to work well | | |
| SQM-18d | BSBM18D | How often do these things happen in your mathematics lessons? My teacher has to wait a long time for students to quiet down | | |
| SQM-18e | BSBM18E | How often do these things happen in your mathematics lessons? Students interrupt the teacher | | |
| SQM-18f | BSBM18F | How often do these things happen in your mathematics lessons? My teacher has to keep telling us to follow the classroom rules | | |
| SQM-19a | BSBM19A | How much do you agree with these statements about mathematics? I usually do well in mathematics | BSBM19A | |
| 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 | BSBM19B | |
| SQM-19c | BSBM19C | How much do you agree with these statements about mathematics? Mathematics is not one of my strengths | BSBM19C | |
| SQM-19d | BSBM19D | How much do you agree with these statements about mathematics? I learn things quickly in mathematics | BSBM19D | |
| SQM-19e | BSBM19E | How much do you agree with these statements about mathematics? Mathematics makes me nervous | BSBM19E | |
| SQM-19f | BSBM19F | How much do you agree with these statements about mathematics? I am good at working out difficult mathematics problems | BSBM19F | |
| SQM-19g | BSBM19G | How much do you agree with these statements about mathematics? My teacher tells me I am good at mathematics | BSBM19G | |
| SQM-19h | BSBM19H | How much do you agree with these statements about mathematics? Mathematics is harder for me than any other subject | BSBM19H | |
| SQM-19i | BSBM19I | How much do you agree with these statements about mathematics? Mathematics makes me confused | BSBM19I | |
| SQM-20a | BSBM20A | How much do you agree with these statements about mathematics? I think learning mathematics will help me in my daily life | BSBM20A | |
| SQM-20b | BSBM20B | How much do you agree with these statements about mathematics? I need mathematics to learn other school subjects | BSBM20B | |
| 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 | BSBM20C | |
| 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 | BSBM20D | |

Exhibit 2.1: International Context Variables for the TIMSS 2019 Student Questionnaire—General/Integrated Version (Grade 8)

| TIMSS 2019 Question Number | TIMSS 2019 Variable Name | TIMSS 2019 Variable Description | TIMSS 2015 Variable Name | Notes |
|----------------------------|--------------------------|--|--------------------------|-------|
| SQM-20e | BSBM20E | How much do you agree with these statements about mathematics? I would like a job that involves using mathematics | BSBM20E | |
| 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 | BSBM20F | |
| 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 | BSBM20G | |
| 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 | BSBM20H | |
| SQM-20i | BSBM20I | How much do you agree with these statements about mathematics? It is important to do well in mathematics | BSBM20I | |
| SQIS-21 | BSBS21 | In science lessons, how often does your teacher ask you to conduct science experiments? | | |
| SQIS-22a | BSBS22A | How much do you agree with these statements about learning science? I enjoy learning science | BSBS21A | |
| SQIS-22b | BSBS22B | How much do you agree with these statements about learning science? I wish I did not have to study science | BSBS21B | |
| SQIS-22c | BSBS22C | How much do you agree with these statements about learning science? Science is boring | BSBS21C | |
| SQIS-22d | BSBS22D | How much do you agree with these statements about learning science? I learn many interesting things in science | BSBS21D | |
| SQIS-22e | BSBS22E | How much do you agree with these statements about learning science? I like science | BSBS21E | |
| SQIS-22f | BSBS22F | How much do you agree with these statements about learning science? I look forward to learning science in school | BSBS21F | |
| SQIS-22g | BSBS22G | How much do you agree with these statements about learning science? Science teaches me how things in the world work | BSBS21G | |
| SQIS-22h | BSBS22H | How much do you agree with these statements about learning science? I like to conduct science experiments | BSBS21H | |
| SQIS-22i | BSBS22I | How much do you agree with these statements about learning science? Science is one of my favorite subjects | BSBS21I | |
| SQIS-23a | BSBS23A | How much do you agree with these statements about your science lessons? I know what my teacher expects me to do | BSBS22A | |
| SQIS-23b | BSBS23B | How much do you agree with these statements about your science lessons? My teacher is easy to understand | BSBS22B | |
| SQIS-23c | BSBS23C | How much do you agree with these statements about your science lessons? My teacher has clear answers to my questions | BSBS22E | |
| SQIS-23d | BSBS23D | How much do you agree with these statements about your science lessons? My teacher is good at explaining science | BSBS22F | |
| SQIS-23e | BSBS23E | How much do you agree with these statements about your science lessons? My teacher does a variety of things to help us learn | BSBS22H | |
| SQIS-23f | BSBS23F | How much do you agree with these statements about your science lessons? My teacher links new lessons to what I already know | | |
| SQIS-23g | BSBS23G | How much do you agree with these statements about your science lessons? My teacher explains a topic again when we don't understand | | |
| SQIS-24a | BSBS24A | How much do you agree with these statements about science? I usually do well in science | BSBS23A | |

Exhibit 2.1: International Context Variables for the TIMSS 2019 Student Questionnaire—General/Integrated Version (Grade 8)

| TIMSS 2019 Question Number | TIMSS 2019 Variable Name | TIMSS 2019 Variable Description | TIMSS 2015 Variable Name | Notes |
|----------------------------|--------------------------|---|--------------------------|-------|
| SQIS-24b | BSBS24B | How much do you agree with these statements about science? Science is more difficult for me than for many of my classmates | BSBS23B | |
| SQIS-24c | BSBS24C | How much do you agree with these statements about science? Science is not one of my strengths | BSBS23C | |
| SQIS-24d | BSBS24D | How much do you agree with these statements about science? I learn things quickly in science | BSBS23D | |
| SQIS-24e | BSBS24E | How much do you agree with these statements about science? I am good at working out difficult science problems | BSBS23E | |
| SQIS-24f | BSBS24F | How much do you agree with these statements about science? My teacher tells me I am good at science | BSBS23F | |
| SQIS-24g | BSBS24G | How much do you agree with these statements about science? Science is harder for me than any other subject | BSBS23G | |
| SQIS-24h | BSBS24H | How much do you agree with these statements about science? Science makes me confused | BSBS23H | |
| SQIS-25a | BSBS25A | How much do you agree with these statements about science? I think learning science will help me in my daily life | BSBS24A | |
| SQIS-25b | BSBS25B | How much do you agree with these statements about science? I need science to learn other school subjects | BSBS24B | |
| SQIS-25c | BSBS25C | 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 | BSBS24C | |
| SQIS-25d | BSBS25D | How much do you agree with these statements about science? I need to do well in science to get the job I want | BSBS24D | |
| SQIS-25e | BSBS25E | How much do you agree with these statements about science? I would like a job that involves using science | BSBS24E | |
| SQIS-25f | BSBS25F | How much do you agree with these statements about science? It is important to learn about science to get ahead in the world | BSBS24F | |
| SQIS-25g | BSBS25G | How much do you agree with these statements about science? Learning science will give me more job opportunities when I am an adult | BSBS24G | |
| SQIS-25h | BSBS25H | How much do you agree with these statements about science? My parents think that it is important that I do well in science | BSBS24H | |
| SQIS-25i | BSBS25I | How much do you agree with these statements about science? It is important to do well in science | BSBS24I | |
| SQIS-26Aa | BSBM26AA | How often does your teacher give you homework in the following subjects? Mathematics | BSBM25AA | |
| SQIS-26Ab | BSBS26AB | How often does your teacher give you homework in the following subjects? Science | BSBS25AB | |
| SQIS-26Ba | BSBM26BA | When your teacher gives you homework in the following subjects, about how many minutes do you usually spend on your homework? Mathematics | BSBM25BA | |
| SQIS-26Bb | BSBS26BB | When your teacher gives you homework in the following subjects, about how many minutes do you usually spend on your homework? Science | BSBS25BB | |
| SQIS-27Aa | BSBM27AA | During the last 12 months, have you attended extra lessons or tutoring not provided by the school in the following subjects? Mathematics | BSBM26AA | |
| SQIS-27Ab | BSBS27AB | During the last 12 months, have you attended extra lessons or tutoring not provided by the school in the following subjects? Science | BSBS26AB | |
| SQIS-27Ba | BSBM27BA | For how many of the last 12 months have you attended extra lessons or tutoring? Mathematics | BSBM26BA | |

**Exhibit 2.1: International Context Variables for the TIMSS 2019 Student Questionnaire—General/Integrated Version
(Grade 8)**

| TIMSS 2019 Question Number | TIMSS 2019 Variable Name | TIMSS 2019 Variable Description | TIMSS 2015 Variable Name | Notes |
|-------------------------------------|-----------------------------------|---|-----------------------------------|-------|
| SQIS-27Bb | BSBS27BB | For how many of the last 12 months have you attended extra lessons or tutoring? Science | BSBS26BB | |



Identification Label

TRENDS IN INTERNATIONAL MATHEMATICS AND SCIENCE STUDY

Student Questionnaire

<Grade 8>

<TIMSS National Research Center Name>
<Address>

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TIMSS & PIRLS
International Study Center
Lynch School of Education
BOSTON COLLEGE

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 --

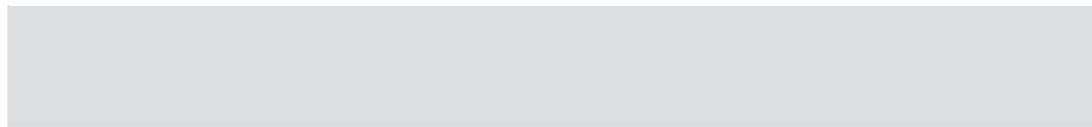
Example 2

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 |
|-------------------------------------|----------------------------|-----------------------------|-----------------------------|
|-------------------------------------|----------------------------|-----------------------------|-----------------------------|

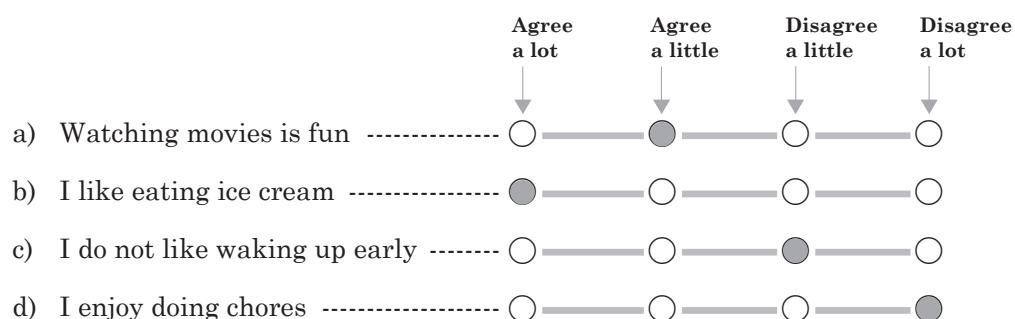
- a) I talk with my friends -----
- b) I play sports -----
- c) I ride a skateboard -----



Example 3

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

Fill one circle for each line.



- 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 \times 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?

BSBG02A

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

BSBG02B

a) Month **b) Year**

January -- 2001 --

February -- 2002 --

March -- 2003 --

April -- 2004 --

May -- 2005 --

June -- 2006 --

July -- 2007 --

August -- 2008 --

September -- 2009 --

October -- Other --

November --

December --

3

<Grade 8> Student Questionnaire



3

How often do you speak <language of test> at home?

BSBG03

Fill one circle only.

Always --

Almost always --

Sometimes --

Never --

4

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

BSBG04

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

Do you have any of these things at your home?

Fill one circle for each line.

- | | Yes | No |
|---|-----------------------|-----------------------|
| BSBG05A a) A computer or tablet ----- | <input type="radio"/> | <input type="radio"/> |
| BSBG05B b) Study desk/table for your use ----- | <input type="radio"/> | <input type="radio"/> |
| BSBG05C c) Your own room----- | <input type="radio"/> | <input type="radio"/> |
| BSBG05D d) Internet connection ----- | <input type="radio"/> | <input type="radio"/> |
| BSBG05E e) Your own mobile phone ----- | <input type="radio"/> | <input type="radio"/> |
| BSBG05F f) <country-specific indicator of wealth> ----- | <input type="radio"/> | <input type="radio"/> |
| BSBG05G g) <country-specific indicator of wealth> ----- | <input type="radio"/> | <input type="radio"/> |
| BSBG05H h) <country-specific indicator of wealth> ----- | <input type="radio"/> | <input type="radio"/> |
| BSBG05I i) <country-specific indicator of wealth> ----- | <input type="radio"/> | <input type="radio"/> |



The following questions are about your <Parent/Guardian A> and <Parent/Guardian B>. <If you have only one parent/guardian, answer for Parent/Guardian A. If you have two parents/guardians, choose one for Parent/Guardian A and the other for Parent/Guardian B.>

6

What is the highest level of education completed by your <parents/guardians>?

A. <Parent/Guardian A>

BSBG06A

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 --

Not applicable --

6 (continued)

What is the highest level of education completed by your <parents/guardians>?

B. <Parent/Guardian B>

BSBG06B

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 --

Not applicable --

7

<Grade 8> Student Questionnaire



7

How far in your education do you expect to go?

BSBG07

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>

8

Were your <parents/guardians> born in <country>?

A. <Parent/Guardian A>

BSBG08A

Fill one circle only.

Yes --

No --

I don't know --

Not applicable --

B. <Parent/Guardian B>

BSBG08B

Fill one circle only.

Yes --

No --

I don't know --

Not applicable --



9

A. Were you born in <country>?

BSBG09A

Fill one circle only.

Yes --

(If Yes, go to #10)

No --

If No,

B. If you were not born in <country>, how old were you when you came to <country>?

BSBG09B

Fill one circle only.

Older than 10 years old --

5 to 10 years old --

Younger than 5 years old --

10

About how often are you absent from school?

BSBG10

Fill one circle only.

Once a week --

Once every two weeks --

Once a month --

Once every two months --

Never or almost never --

9

<Grade 8> Student Questionnaire



11

How often do you feel this way when you arrive at school?

Fill one circle for each line.

| | Every day | Almost every day | Sometimes | Never |
|-------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| BSBG11A a) I feel tired ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBG11B b) I feel hungry ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

12

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 |
|---|-----------------------|-----------------------|
| BSBG12A a) Access the textbook or other course materials ----- | <input type="radio"/> | <input type="radio"/> |
| BSBG12B b) Access assignments posted online by my teacher ----- | <input type="radio"/> | <input type="radio"/> |
| BSBG12C c) Collaborate with classmates on assignments or projects ----- | <input type="radio"/> | <input type="radio"/> |
| BSBG12D d) Communicate with the teacher ----- | <input type="radio"/> | <input type="radio"/> |
| BSBG12E e) Find information, articles, or tutorials to aid in understanding mathematics or science ----- | <input type="radio"/> | <input type="radio"/> |
| BSBG12F f) Access learning games or activities related to mathematics or science ----- | <input type="radio"/> | <input type="radio"/> |

Your School

13

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 |
|---------|---|-----------------------|-----------------------|-----------------------|-----------------------|
| BSBG13A | a) I like being in school ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBG13B | b) I feel safe when I am at school ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBG13C | c) I feel like I belong at this school ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBG13D | d) Teachers at my school are fair to me ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBG13E | e) I am proud to go to this school ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

11

<Grade 8> Student Questionnaire



14

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 |
|---------|---|----------------------------|-----------------------------|--------------------------|-----------------------|
| BSBG14A | a) Said mean things about my physical appearance (e.g., my hair, my size) ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBG14B | b) Spread lies about me ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBG14C | c) Shared my secrets with others ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBG14D | d) Refused to talk to me ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBG14E | e) Insulted a member of my family --- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBG14F | f) Stole something from me ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBG14G | g) Made me do things I didn't want to do ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBG14H | h) Sent me nasty or hurtful messages online ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBG14I | i) Shared nasty or hurtful things about me online----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBG14J | j) Shared embarrassing photos of me online----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBG14K | k) Threatened me ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBG14L | l) Physically hurt me ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBG14M | m) Excluded me from their group (e.g., parties, messaging) ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBG14N | n) Damaged something of mine on purpose ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Mathematics in School

15

**In mathematics lessons, how often do you work problems
on your own?**

BSBM15

Fill one circle only.

Every or almost every lesson --

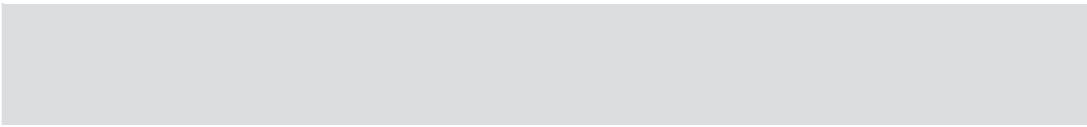
About half the lessons --

Some lessons --

Never --

13

<Grade 8> Student Questionnaire



16

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

Fill one circle for each line.

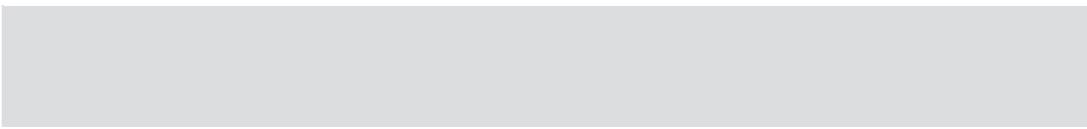
| | Agree a lot | Agree a little | Disagree a little | Disagree a lot |
|---|-----------------------|-----------------------|-----------------------|-----------------------|
| BSBM16A a) I enjoy learning mathematics ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBM16B b) I wish I did not have to study mathematics ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBM16C c) Mathematics is boring ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBM16D d) I learn many interesting things in mathematics ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBM16E e) I like mathematics ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBM16F f) I like any schoolwork that involves numbers ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBM16G g) I like to solve mathematics problems ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBM16H h) I look forward to mathematics class ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBM16I i) Mathematics is one of my favorite subjects ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

17

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 |
|---------|---|-----------------------|-----------------------|-----------------------|-----------------------|
| BSBM17A | a) I know what my teacher expects me to do ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBM17B | b) My teacher is easy to understand -- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBM17C | c) My teacher has clear answers to my questions ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBM17D | d) My teacher is good at explaining mathematics ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBM17E | e) My teacher does a variety of things to help us learn ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBM17F | f) My teacher links new lessons to what I already know ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBM17G | g) My teacher explains a topic again when we don't understand ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |



18

How often do these things happen in your mathematics lessons?

Fill one circle for each line.

| | Every or almost every lesson | About half the lessons | Some lessons | Never |
|--|---------------------------------------|---------------------------------|-----------------------|-----------------------|
| BSBM18A a) Students don't listen to what the teacher says ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBM18B b) There is disruptive noise ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBM18C c) It is too disorderly for students to work well ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBM18D d) My teacher has to wait a long time for students to quiet down ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBM18E e) Students interrupt the teacher ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBM18F f) My teacher has to keep telling us to follow the classroom rules ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

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 ... | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBM19B b) Mathematics is more difficult for me than for many of my classmates ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBM19C c) Mathematics is not one of my strengths ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBM19D d) I learn things quickly in mathematics ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBM19E e) Mathematics makes me nervous ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBM19F f) I am good at working out difficult mathematics problems ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBM19G g) My teacher tells me I am good at mathematics ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBM19H h) Mathematics is harder for me than any other subject ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBM19I i) Mathematics makes me confused ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |



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 | ----- <input type="radio"/> | ----- <input type="radio"/> | ----- <input type="radio"/> | ----- <input type="radio"/> |
| BSBM20B | ----- <input type="radio"/> | ----- <input type="radio"/> | ----- <input type="radio"/> | ----- <input type="radio"/> |
| BSBM20C | ----- <input type="radio"/> | ----- <input type="radio"/> | ----- <input type="radio"/> | ----- <input type="radio"/> |
| BSBM20D | ----- <input type="radio"/> | ----- <input type="radio"/> | ----- <input type="radio"/> | ----- <input type="radio"/> |
| BSBM20E | ----- <input type="radio"/> | ----- <input type="radio"/> | ----- <input type="radio"/> | ----- <input type="radio"/> |
| BSBM20F | ----- <input type="radio"/> | ----- <input type="radio"/> | ----- <input type="radio"/> | ----- <input type="radio"/> |
| BSBM20G | ----- <input type="radio"/> | ----- <input type="radio"/> | ----- <input type="radio"/> | ----- <input type="radio"/> |
| BSBM20H | ----- <input type="radio"/> | ----- <input type="radio"/> | ----- <input type="radio"/> | ----- <input type="radio"/> |
| BSBM20I | ----- <input type="radio"/> | ----- <input type="radio"/> | ----- <input type="radio"/> | ----- <input type="radio"/> |

Science in School

21

In science lessons, how often does your teacher ask you to conduct science experiments?

BSBS21

Fill one circle only.

At least once a week --

Once or twice a month --

A few times a year --

Never --

19

<Grade 8> Student Questionnaire

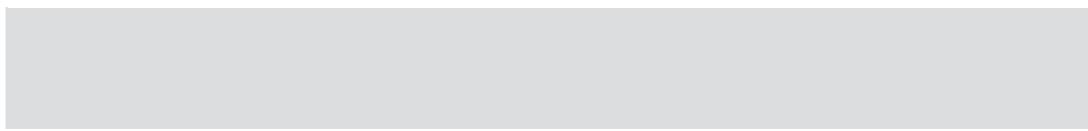


22

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 |
|---|-----------------------|-----------------------|-----------------------|-----------------------|
| BSBS22A a) I enjoy learning science ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBS22B b) I wish I did not have to study science ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBS22C c) Science is boring ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBS22D d) I learn many interesting things in science ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBS22E e) I like science ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBS22F f) I look forward to learning science in school ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBS22G g) Science teaches me how things in the world work ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBS22H h) I like to conduct science experiments ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBS22I i) Science 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 science lessons?

Fill **one** circle for each line.

| | | Agree a lot | Agree a little | Disagree a little | Disagree a lot |
|---------|---|-----------------------|-----------------------|-----------------------|-----------------------|
| BSBS23A | a) I know what my teacher expects me to do ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBS23B | b) My teacher is easy to understand -- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBS23C | c) My teacher has clear answers to my questions ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBS23D | d) My teacher is good at explaining science ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBS23E | e) My teacher does a variety of things to help us learn ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBS23F | f) My teacher links new lessons to what I already know ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBS23G | g) My teacher explains a topic again when we don't understand ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

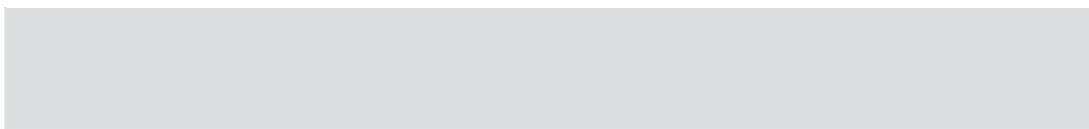


24

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 usually do well in science ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBS24B b) Science is more difficult for me than for many of my classmates ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBS24C c) Science is not one of my strengths ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBS24D d) I learn things quickly in science ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBS24E e) I am good at working out difficult science problems ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBS24F f) My teacher tells me I am good at science ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBS24G g) Science is harder for me than any other subject ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBS24H h) Science makes me confused ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |



25

How much do you agree with these statements about science?

Fill one circle for each line.

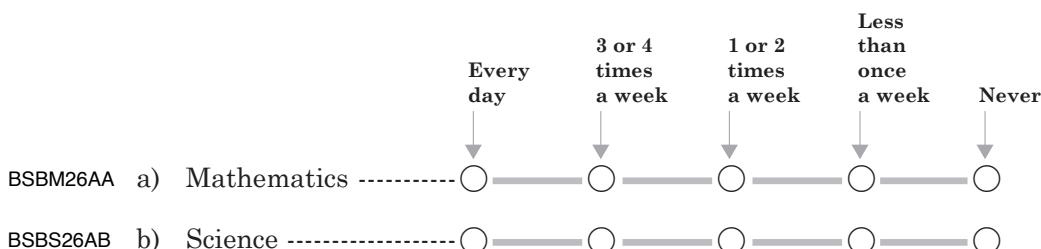
| | Agree a lot | Agree a little | Disagree a little | Disagree a lot |
|--|-----------------------|-----------------------|-----------------------|-----------------------|
| BSBS25A a) I think learning science will help me in my daily life ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBS25B b) I need science to learn other school subjects ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBS25C c) I need to do well in science to get into the <university> of my choice - ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBS25D d) I need to do well in science to get the job I want ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBS25E e) I would like a job that involves using science ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBS25F f) It is important to learn about science to get ahead in the world ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBS25G g) Learning science will give me more job opportunities when I am an adult ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBS25H h) My parents think that it is important that I do well in science ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBS25I i) It is important to do well in science ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Homework

26

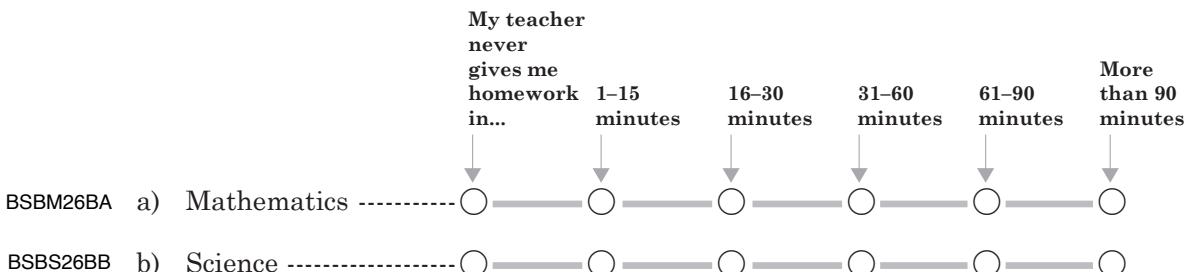
- A. How often does your teacher give you homework in the following subjects?

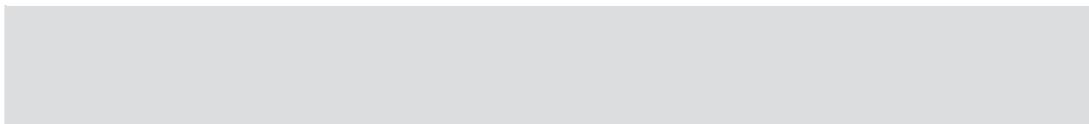
Fill one circle for each line.



- 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.





27

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 |
|----------|----------------------|------------------------------|--------------------------------|-----------------------|
| BSBM27AA | a) Mathematics ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBS27AB | b) Science ----- | <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 |
|----------|-----------------------|-----------------------|-----------------------|-----------------------|
| BSBM27BA | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBS27BB | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |



Thank You!

Thank you for filling out the questionnaire!



BOSTON
COLLEGE

timss.bc.edu

<Grade 8>



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International Association
for the Evaluation of
Educational Achievement



SECTION 2.2:

STUDENT QUESTIONNAIRE—

SEPARATE SCIENCE VERSION

GRADE 8

TIMSS 2019 USER GUIDE FOR THE
INTERNATIONAL DATABASE



TIMSS & PIRLS
International Study Center
Lynch School of Education
BOSTON COLLEGE

**Exhibit 2.2: International Context Variables for the TIMSS 2019 Student Questionnaire—Separate Science Version
(Grade 8)**

| TIMSS 2019 Question Number | TIMSS 2019 Variable Name | TIMSS 2019 Variable Description | TIMSS 2015 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-05a | BSBG05A | Do you have any of these things at your home? A computer or tablet | BSBG06A, BSBG06B | Modified wording in 2019 |
| SQG-05b | BSBG05B | Do you have any of these things at your home? Study desk/table for your use | BSBG06C | |
| SQG-05c | BSBG05C | Do you have any of these things at your home? Your own room | BSBG06D | |
| SQG-05d | BSBG05D | Do you have any of these things at your home? Internet connection | BSBG06E | |
| SQG-05e | BSBG05E | Do you have any of these things at your home? Your own mobile phone | BSBG06F | |
| SQG-05f | BSBG05F | Do you have any of these things at your home? <country-specific indicator of wealth> | BSBG06H | |
| SQG-05g | BSBG05G | Do you have any of these things at your home? <country-specific indicator of wealth> | BSBG06I | |
| SQG-05h | BSBG05H | Do you have any of these things at your home? <country-specific indicator of wealth> | BSBG06J | |
| SQG-05i | BSBG05I | Do you have any of these things at your home? <country-specific indicator of wealth> | BSBG06K | |
| SQG-06A | BSBG06A | What is the highest level of education completed by your <parents/guardians>? <Parent/Guardian A> | BSBG07A | Modified wording and response options in 2019 |
| SQG-06B | BSBG06B | What is the highest level of education completed by your <parents/guardians>? <Parent/Guardian B> | BSBG07B | Modified wording and response options in 2019 |
| SQG-07 | BSBG07 | How far in your education do you expect to go? | BSBG08 | |
| SQG-08A | BSBG08A | Were your <parents/guardians> born in <country>? <Parent/Guardian A> | BSBG09A | Modified wording and response options in 2019 |
| SQG-08B | BSBG08B | Were your <parents/guardians> born in <country>? <Parent/Guardian B> | BSBG09B | Modified wording and response options in 2019 |
| SQG-09A | BSBG09A | Were you born in <country>? | BSBG10A | |
| SQG-09B | BSBG09B | If you were not born in <country>, how old were you when you came to <country>? | BSBG10B | |
| SQG-10 | BSBG10 | About how often are you absent from school? | BSBG11 | Modified response options in 2019 |
| SQG-11a | BSBG11A | How often do you feel this way when you arrive at school? I feel tired | | |
| SQG-11b | BSBG11B | How often do you feel this way when you arrive at school? I feel hungry | | |
| SQG-12a | BSBG12A | Do you use the Internet to do any of the following tasks for schoolwork (including classroom tasks, homework, studying outside of class)? Access the textbook or other course materials | BSBG14A | |
| SQG-12b | BSBG12B | Do you use the Internet to do any of the following tasks for schoolwork (including classroom tasks, homework, studying outside of class)? Access assignments posted online by my teacher | BSBG14B | |

Exhibit 2.2: International Context Variables for the TIMSS 2019 Student Questionnaire—Separate Science Version (Grade 8)

| TIMSS 2019 Question Number | TIMSS 2019 Variable Name | TIMSS 2019 Variable Description | TIMSS 2015 Variable Name | Notes |
|----------------------------|--------------------------|--|--------------------------|--------------------------|
| SQG-12c | BSBG12C | Do you use the Internet to do any of the following tasks for schoolwork (including classroom tasks, homework, studying outside of class)? Collaborate with classmates on assignments or projects | BSBG14C | |
| SQG-12d | BSBG12D | Do you use the Internet to do any of the following tasks for schoolwork (including classroom tasks, homework, studying outside of class)? Communicate with the teacher | BSBG14D | |
| SQG-12e | BSBG12E | Do you use the Internet to do any of the following tasks for schoolwork (including classroom tasks, homework, studying outside of class)? Find information, articles, or tutorials to aid in understanding mathematics or science | BSBG14E BSBG14F | Modified wording in 2019 |
| SQG-12f | BSBG12F | Do you use the Internet to do any of the following tasks for schoolwork (including classroom tasks, homework, studying outside of class)? Access learning games or activities related to mathematics or science | | |
| SQG-13a | BSBG13A | What do you think about your school? Tell how much you agree with these statements. I like being in school | BSBG15A | |
| SQG-13b | BSBG13B | What do you think about your school? Tell how much you agree with these statements. I feel safe when I am at school | BSBG15B | |
| SQG-13c | BSBG13C | What do you think about your school? Tell how much you agree with these statements. I feel like I belong at this school | BSBG15C | |
| SQG-13d | BSBG13D | What do you think about your school? Tell how much you agree with these statements. Teachers at my school are fair to me | BSBG15E | |
| SQG-13e | BSBG13E | What do you think about your school? Tell how much you agree with these statements. I am proud to go to this school | BSBG15F | |
| SQG-14a | BSBG14A | 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? Said mean things about my physical appearance (e.g., my hair, my size) | | |
| SQG-14b | BSBG14B | 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? Spread lies about me | BSBG16C | |
| SQG-14c | BSBG14C | 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? Shared my secrets with others | | |
| SQG-14d | BSBG14D | 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? Refused to talk to me | | |
| SQG-14e | BSBG14E | 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? Insulted a member of my family | | |
| SQG-14f | BSBG14F | 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? Stole something from me | BSBG16D | |
| SQG-14g | BSBG14G | 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? Made me do things I didn't want to do | BSBG16F | |

Exhibit 2.2: International Context Variables for the TIMSS 2019 Student Questionnaire—Separate Science Version (Grade 8)

| TIMSS 2019 Question Number | TIMSS 2019 Variable Name | TIMSS 2019 Variable Description | TIMSS 2015 Variable Name | Notes |
|----------------------------|--------------------------|---|--------------------------|-------|
| SQG-14h | BSBG14H | 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? Sent me nasty or hurtful messages online | | |
| SQG-14i | BSBG14I | 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? Shared nasty or hurtful things about me online | | |
| SQG-14j | BSBG14J | 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? Shared embarrassing photos of me online | | |
| SQG-14k | BSBG14K | 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? Threatened me | BSBG16I | |
| SQG-14l | BSBG14L | 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? Physically hurt me | | |
| SQG-14m | BSBG14M | 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? Excluded me from their group (e.g., parties, messaging) | | |
| SQG-14n | BSBG14N | 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? Damaged something of mine on purpose | | |
| SQM-15 | BSBM15 | In mathematics lessons, how often do you work problems on your own? | | |
| SQM-16a | BSBM16A | How much do you agree with these statements about learning mathematics? I enjoy learning mathematics | BSBM17A | |
| SQM-16b | BSBM16B | How much do you agree with these statements about learning mathematics? I wish I did not have to study mathematics | BSBM17B | |
| SQM-16c | BSBM16C | How much do you agree with these statements about learning mathematics? Mathematics is boring | BSBM17C | |
| SQM-16d | BSBM16D | How much do you agree with these statements about learning mathematics? I learn many interesting things in mathematics | BSBM17D | |
| SQM-16e | BSBM16E | How much do you agree with these statements about learning mathematics? I like mathematics | BSBM17E | |
| SQM-16f | BSBM16F | How much do you agree with these statements about learning mathematics? I like any schoolwork that involves numbers | BSBM17F | |
| SQM-16g | BSBM16G | How much do you agree with these statements about learning mathematics? I like to solve mathematics problems | BSBM17G | |
| SQM-16h | BSBM16H | How much do you agree with these statements about learning mathematics? I look forward to mathematics class | BSBM17H | |
| SQM-16i | BSBM16I | How much do you agree with these statements about learning mathematics? Mathematics is one of my favorite subjects | BSBM17I | |
| SQM-17a | BSBM17A | How much do you agree with these statements about your mathematics lessons? I know what my teacher expects me to do | BSBM18A | |
| SQM-17b | BSBM17B | How much do you agree with these statements about your mathematics lessons? My teacher is easy to understand | BSBM18B | |
| SQM-17c | BSBM17C | How much do you agree with these statements about your mathematics lessons? My teacher has clear answers to my questions | BSBM18E | |

Exhibit 2.2: International Context Variables for the TIMSS 2019 Student Questionnaire—Separate Science Version (Grade 8)

| TIMSS 2019 Question Number | TIMSS 2019 Variable Name | TIMSS 2019 Variable Description | TIMSS 2015 Variable Name | Notes |
|----------------------------|--------------------------|---|--------------------------|-------|
| SQM-17d | BSBM17D | How much do you agree with these statements about your mathematics lessons? My teacher is good at explaining mathematics | BSBM18F | |
| SQM-17e | BSBM17E | How much do you agree with these statements about your mathematics lessons? My teacher does a variety of things to help us learn | BSBM18H | |
| SQM-17f | BSBM17F | How much do you agree with these statements about your mathematics lessons? My teacher links new lessons to what I already know | | |
| SQM-17g | BSBM17G | How much do you agree with these statements about your mathematics lessons? My teacher explains a topic again when we don't understand | | |
| SQM-18a | BSBM18A | How often do these things happen in your mathematics lessons? Students don't listen to what the teacher says | | |
| SQM-18b | BSBM18B | How often do these things happen in your mathematics lessons? There is disruptive noise | | |
| SQM-18c | BSBM18C | How often do these things happen in your mathematics lessons? It is too disorderly for students to work well | | |
| SQM-18d | BSBM18D | How often do these things happen in your mathematics lessons? My teacher has to wait a long time for students to quiet down | | |
| SQM-18e | BSBM18E | How often do these things happen in your mathematics lessons? Students interrupt the teacher | | |
| SQM-18f | BSBM18F | How often do these things happen in your mathematics lessons? My teacher has to keep telling us to follow the classroom rules | | |
| SQM-19a | BSBM19A | How much do you agree with these statements about mathematics? I usually do well in mathematics | BSBM19A | |
| 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 | BSBM19B | |
| SQM-19c | BSBM19C | How much do you agree with these statements about mathematics? Mathematics is not one of my strengths | BSBM19C | |
| SQM-19d | BSBM19D | How much do you agree with these statements about mathematics? I learn things quickly in mathematics | BSBM19D | |
| SQM-19e | BSBM19E | How much do you agree with these statements about mathematics? Mathematics makes me nervous | BSBM19E | |
| SQM-19f | BSBM19F | How much do you agree with these statements about mathematics? I am good at working out difficult mathematics problems | BSBM19F | |
| SQM-19g | BSBM19G | How much do you agree with these statements about mathematics? My teacher tells me I am good at mathematics | BSBM19G | |
| SQM-19h | BSBM19H | How much do you agree with these statements about mathematics? Mathematics is harder for me than any other subject | BSBM19H | |
| SQM-19i | BSBM19I | How much do you agree with these statements about mathematics? Mathematics makes me confused | BSBM19I | |
| SQM-20a | BSBM20A | How much do you agree with these statements about mathematics? I think learning mathematics will help me in my daily life | BSBM20A | |
| SQM-20b | BSBM20B | How much do you agree with these statements about mathematics? I need mathematics to learn other school subjects | BSBM20B | |
| 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 | BSBM20C | |
| 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 | BSBM20D | |

Exhibit 2.2: International Context Variables for the TIMSS 2019 Student Questionnaire—Separate Science Version (Grade 8)

| TIMSS 2019 Question Number | TIMSS 2019 Variable Name | TIMSS 2019 Variable Description | TIMSS 2015 Variable Name | Notes |
|----------------------------|--------------------------|--|--------------------------|-------|
| SQM-20e | BSBM20E | How much do you agree with these statements about mathematics? I would like a job that involves using mathematics | BSBM20E | |
| 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 | BSBM20F | |
| 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 | BSBM20G | |
| 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 | BSBM20H | |
| SQM-20i | BSBM20I | How much do you agree with these statements about mathematics? It is important to do well in mathematics | BSBM20I | |
| SQSS-21 | BSBB21 | Are you studying biology in school this year? | BSBB21 | |
| SQSS-22 | BSBB22 | In biology lessons, how often does your teacher ask you to conduct biology experiments? | | |
| SQSS-23a | BSBB23A | How much do you agree with these statements about learning biology? I enjoy learning biology | BSBB22A | |
| SQSS-23b | BSBB23B | How much do you agree with these statements about learning biology? I wish I did not have to study biology | BSBB22B | |
| SQSS-23c | BSBB23C | How much do you agree with these statements about learning biology? Biology is boring | BSBB22C | |
| SQSS-23d | BSBB23D | How much do you agree with these statements about learning biology? I learn many interesting things in biology | BSBB22D | |
| SQSS-23e | BSBB23E | How much do you agree with these statements about learning biology? I like biology | BSBB22E | |
| SQSS-23f | BSBB23F | How much do you agree with these statements about learning biology? I look forward to learning biology in school | BSBB22F | |
| SQSS-23g | BSBB23G | How much do you agree with these statements about learning biology? Biology teaches me how things in the world work | BSBB22G | |
| SQSS-23h | BSBB23H | How much do you agree with these statements about learning biology? I like to conduct biology experiments | BSBB22H | |
| SQSS-23i | BSBB23I | How much do you agree with these statements about learning biology? Biology is one of my favorite subjects | BSBB22I | |
| SQSS-24a | BSBB24A | How much do you agree with these statements about your biology lessons? I know what my teacher expects me to do | BSBB23A | |
| SQSS-24b | BSBB24B | How much do you agree with these statements about your biology lessons? My teacher is easy to understand | BSBB23B | |
| SQSS-24c | BSBB24C | How much do you agree with these statements about your biology lessons? My teacher has clear answers to my questions | BSBB23E | |
| SQSS-24d | BSBB24D | How much do you agree with these statements about your biology lessons? My teacher is good at explaining biology | BSBB23F | |
| SQSS-24e | BSBB24E | How much do you agree with these statements about your biology lessons? My teacher does a variety of things to help us learn | BSBB23H | |
| SQSS-24f | BSBB24F | How much do you agree with these statements about your biology lessons? My teacher links new lessons to what I already know | | |
| SQSS-24g | BSBB24G | How much do you agree with these statements about your biology lessons? My teacher explains a topic again when we don't understand | | |

Exhibit 2.2: International Context Variables for the TIMSS 2019 Student Questionnaire—Separate Science Version (Grade 8)

| TIMSS 2019 Question Number | TIMSS 2019 Variable Name | TIMSS 2019 Variable Description | TIMSS 2015 Variable Name | Notes |
|----------------------------|--------------------------|--|--------------------------|-------|
| SQSS-25a | BSBB25A | How much do you agree with these statements about biology? I usually do well in biology | BSBB24A | |
| SQSS-25b | BSBB25B | How much do you agree with these statements about biology? Biology is more difficult for me than for many of my classmates | BSBB24B | |
| SQSS-25c | BSBB25C | How much do you agree with these statements about biology? Biology is not one of my strengths | BSBB24C | |
| SQSS-25d | BSBB25D | How much do you agree with these statements about biology? I learn things quickly in biology | BSBB24D | |
| SQSS-25e | BSBB25E | How much do you agree with these statements about biology? I am good at working out difficult biology problems | BSBB24E | |
| SQSS-25f | BSBB25F | How much do you agree with these statements about biology? My teacher tells me I am good at biology | BSBB24F | |
| SQSS-25g | BSBB25G | How much do you agree with these statements about biology? Biology is harder for me than any other subject | BSBB24G | |
| SQSS-25h | BSBB25H | How much do you agree with these statements about biology? Biology makes me confused | BSBB24H | |
| SQSS-26 | BSBE26 | Are you studying earth science in school this year? | BSBE25 | |
| SQSS-27 | BSBE27 | In earth science lessons, how often does your teacher ask you to conduct earth science experiments? | | |
| SQSS-28a | BSBE28A | How much do you agree with these statements about learning earth science? I enjoy learning earth science | BSBE26A | |
| SQSS-28b | BSBE28B | How much do you agree with these statements about learning earth science? I wish I did not have to study earth science | BSBE26B | |
| SQSS-28c | BSBE28C | How much do you agree with these statements about learning earth science? Earth science is boring | BSBE26C | |
| SQSS-28d | BSBE28D | How much do you agree with these statements about learning earth science? I learn many interesting things in earth science | BSBE26D | |
| SQSS-28e | BSBE28E | How much do you agree with these statements about learning earth science? I like earth science | BSBE26E | |
| SQSS-28f | BSBE28F | How much do you agree with these statements about learning earth science? I look forward to learning earth science in school | BSBE26F | |
| SQSS-28g | BSBE28G | How much do you agree with these statements about learning earth science? Earth science teaches me how things in the world work | BSBE26G | |
| SQSS-28h | BSBE28H | How much do you agree with these statements about learning earth science? I like to conduct earth science experiments | BSBE26H | |
| SQSS-28i | BSBE28I | How much do you agree with these statements about learning earth science? Earth science is one of my favorite subjects | BSBE26I | |
| SQSS-29a | BSBE29A | How much do you agree with these statements about your earth science lessons? I know what my teacher expects me to do | BSBE27A | |
| SQSS-29b | BSBE29B | How much do you agree with these statements about your earth science lessons? My teacher is easy to understand | BSBE27B | |
| SQSS-29c | BSBE29C | How much do you agree with these statements about your earth science lessons? My teacher has clear answers to my questions | BSBE27E | |
| SQSS-29d | BSBE29D | How much do you agree with these statements about your earth science lessons? My teacher is good at explaining earth science | BSBE27F | |
| SQSS-29e | BSBE29E | How much do you agree with these statements about your earth science lessons? My teacher does a variety of things to help us learn | BSBE27H | |

Exhibit 2.2: International Context Variables for the TIMSS 2019 Student Questionnaire—Separate Science Version (Grade 8)

| TIMSS 2019 Question Number | TIMSS 2019 Variable Name | TIMSS 2019 Variable Description | TIMSS 2015 Variable Name | Notes |
|----------------------------|--------------------------|--|--------------------------|-------|
| SQSS-29f | BSBE29F | How much do you agree with these statements about your earth science lessons? My teacher links new lessons to what I already know | | |
| SQSS-29g | BSBE29G | How much do you agree with these statements about your earth science lessons? My teacher explains a topic again when we don't understand | | |
| SQSS-30a | BSBE30A | How much do you agree with these statements about earth science? I usually do well in earth science | BSBE28A | |
| SQSS-30b | BSBE30B | How much do you agree with these statements about earth science? Earth science is more difficult for me than for many of my classmates | BSBE28B | |
| SQSS-30c | BSBE30C | How much do you agree with these statements about earth science? Earth science is not one of my strengths | BSBE28C | |
| SQSS-30d | BSBE30D | How much do you agree with these statements about earth science? I learn things quickly in earth science | BSBE28D | |
| SQSS-30e | BSBE30E | How much do you agree with these statements about earth science? I am good at working out difficult earth science problems | BSBE28E | |
| SQSS-30f | BSBE30F | How much do you agree with these statements about earth science? My teacher tells me I am good at earth science | BSBE28F | |
| SQSS-30g | BSBE30G | How much do you agree with these statements about earth science? Earth science is harder for me than any other subject | BSBE28G | |
| SQSS-30h | BSBE30H | How much do you agree with these statements about earth science? Earth science makes me confused | BSBE28H | |
| SQSS-31 | BSBC31 | Are you studying chemistry in school this year? | BSBC29 | |
| SQSS-32 | BSBC32 | In chemistry lessons, how often does your teacher ask you to conduct chemistry experiments? | | |
| SQSS-33a | BSBC33A | How much do you agree with these statements about learning chemistry? I enjoy learning chemistry | BSBC30A | |
| SQSS-33b | BSBC33B | How much do you agree with these statements about learning chemistry? I wish I did not have to study chemistry | BSBC30B | |
| SQSS-33c | BSBC33C | How much do you agree with these statements about learning chemistry? Chemistry is boring | BSBC30C | |
| SQSS-33d | BSBC33D | How much do you agree with these statements about learning chemistry? I learn many interesting things in chemistry | BSBC30D | |
| SQSS-33e | BSBC33E | How much do you agree with these statements about learning chemistry? I like chemistry | BSBC30E | |
| SQSS-33f | BSBC33F | How much do you agree with these statements about learning chemistry? I look forward to learning chemistry in school | BSBC30F | |
| SQSS-33g | BSBC33G | How much do you agree with these statements about learning chemistry? Chemistry teaches me how things in the world work | BSBC30G | |
| SQSS-33h | BSBC33H | How much do you agree with these statements about learning chemistry? I like to conduct chemistry experiments | BSBC30H | |
| SQSS-33i | BSBC33I | How much do you agree with these statements about learning chemistry? Chemistry is one of my favorite subjects | BSBC30I | |
| SQSS-34a | BSBC34A | How much do you agree with these statements about your chemistry lessons? I know what my teacher expects me to do | BSBC31A | |
| SQSS-34b | BSBC34B | How much do you agree with these statements about your chemistry lessons? My teacher is easy to understand | BSBC31B | |
| SQSS-34c | BSBC34C | How much do you agree with these statements about your chemistry lessons? My teacher has clear answers to my questions | BSBC31E | |

Exhibit 2.2: International Context Variables for the TIMSS 2019 Student Questionnaire—Separate Science Version (Grade 8)

| TIMSS 2019 Question Number | TIMSS 2019 Variable Name | TIMSS 2019 Variable Description | TIMSS 2015 Variable Name | Notes |
|----------------------------|--------------------------|--|--------------------------|-------|
| SQSS-34d | BSBC34D | How much do you agree with these statements about your chemistry lessons? My teacher is good at explaining chemistry | BSBC31F | |
| SQSS-34e | BSBC34E | How much do you agree with these statements about your chemistry lessons? My teacher does a variety of things to help us learn | BSBC31H | |
| SQSS-34f | BSBC34F | How much do you agree with these statements about your chemistry lessons? My teacher links new lessons to what I already know | | |
| SQSS-34g | BSBC34G | How much do you agree with these statements about your chemistry lessons? My teacher explains a topic again when we don't understand | | |
| SQSS-35a | BSBC35A | How much do you agree with these statements about chemistry? I usually do well in chemistry | BSBC32A | |
| SQSS-35b | BSBC35B | How much do you agree with these statements about chemistry? Chemistry is more difficult for me than for many of my classmates | BSBC32B | |
| SQSS-35c | BSBC35C | How much do you agree with these statements about chemistry? Chemistry is not one of my strengths | BSBC32C | |
| SQSS-35d | BSBC35D | How much do you agree with these statements about chemistry? I learn things quickly in chemistry | BSBC32D | |
| SQSS-35e | BSBC35E | How much do you agree with these statements about chemistry? I am good at working out difficult chemistry problems | BSBC32E | |
| SQSS-35f | BSBC35F | How much do you agree with these statements about chemistry? My teacher tells me I am good at chemistry | BSBC32F | |
| SQSS-35g | BSBC35G | How much do you agree with these statements about chemistry? Chemistry is harder for me than any other subject | BSBC32G | |
| SQSS-35h | BSBC35H | How much do you agree with these statements about chemistry? Chemistry makes me confused | BSBC32H | |
| SQSS-36 | BSBP36 | Are you studying physics in school this year? | BSBP33 | |
| SQSS-37 | BSBP37 | In physics lessons, how often does your teacher ask you to conduct physics experiments? | | |
| SQSS-38a | BSBP38A | How much do you agree with these statements about learning physics? I enjoy learning physics | BSBP34A | |
| SQSS-38b | BSBP38B | How much do you agree with these statements about learning physics? I wish I did not have to study physics | BSBP34B | |
| SQSS-38c | BSBP38C | How much do you agree with these statements about learning physics? Physics is boring | BSBP34C | |
| SQSS-38d | BSBP38D | How much do you agree with these statements about learning physics? I learn many interesting things in physics | BSBP34D | |
| SQSS-38e | BSBP38E | How much do you agree with these statements about learning physics? I like physics | BSBP34E | |
| SQSS-38f | BSBP38F | How much do you agree with these statements about learning physics? I look forward to learning physics in school | BSBP34F | |
| SQSS-38g | BSBP38G | How much do you agree with these statements about learning physics? Physics teaches me how things in the world work | BSBP34G | |
| SQSS-38h | BSBP38H | How much do you agree with these statements about learning physics? I like to conduct physics experiments | BSBP34H | |
| SQSS-38i | BSBP38I | How much do you agree with these statements about learning physics? Physics is one of my favorite subjects | BSBP34I | |
| SQSS-39a | BSBP39A | How much do you agree with these statements about your physics lessons? I know what my teacher expects me to do | BSBP35A | |

Exhibit 2.2: International Context Variables for the TIMSS 2019 Student Questionnaire—Separate Science Version (Grade 8)

| TIMSS 2019 Question Number | TIMSS 2019 Variable Name | TIMSS 2019 Variable Description | TIMSS 2015 Variable Name | Notes |
|----------------------------|--------------------------|--|--------------------------|-------|
| SQSS-39b | BSBP39B | How much do you agree with these statements about your physics lessons? My teacher is easy to understand | BSBP35B | |
| SQSS-39c | BSBP39C | How much do you agree with these statements about your physics lessons? My teacher has clear answers to my questions | BSBP35E | |
| SQSS-39d | BSBP39D | How much do you agree with these statements about your physics lessons? My teacher is good at explaining physics | BSBP35F | |
| SQSS-39e | BSBP39E | How much do you agree with these statements about your physics lessons? My teacher does a variety of things to help us learn | BSBP35H | |
| SQSS-39f | BSBP39F | How much do you agree with these statements about your physics lessons? My teacher links new lessons to what I already know | | |
| SQSS-39g | BSBP39G | How much do you agree with these statements about your physics lessons? My teacher explains a topic again when we don't understand | | |
| SQSS-40a | BSBP40A | How much do you agree with these statements about physics? I usually do well in physics | BSBP36A | |
| SQSS-40b | BSBP40B | How much do you agree with these statements about physics? Physics is more difficult for me than for many of my classmates | BSBP36B | |
| SQSS-40c | BSBP40C | How much do you agree with these statements about physics? Physics is not one of my strengths | BSBP36C | |
| SQSS-40d | BSBP40D | How much do you agree with these statements about physics? I learn things quickly in physics | BSBP36D | |
| SQSS-40e | BSBP40E | How much do you agree with these statements about physics? I am good at working out difficult physics problems | BSBP36E | |
| SQSS-40f | BSBP40F | How much do you agree with these statements about physics? My teacher tells me I am good at physics | BSBP36F | |
| SQSS-40g | BSBP40G | How much do you agree with these statements about physics? Physics is harder for me than any other subject | BSBP36G | |
| SQSS-40h | BSBP40H | How much do you agree with these statements about physics? Physics makes me confused | BSBP36H | |
| SQSS-41a | BSBS41A | 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 | BSBS37A | |
| SQSS-41b | BSBS41B | 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 | BSBS37B | |
| SQSS-41c | BSBS41C | 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 | BSBS37C | |
| SQSS-41d | BSBS41D | 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 | BSBS37D | |
| SQSS-41e | BSBS41E | 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 | BSBS37E | |
| SQSS-41f | BSBS41F | 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 | BSBS37F | |

Exhibit 2.2: International Context Variables for the TIMSS 2019 Student Questionnaire—Separate Science Version (Grade 8)

| TIMSS 2019 Question Number | TIMSS 2019 Variable Name | TIMSS 2019 Variable Description | TIMSS 2015 Variable Name | Notes |
|---|---|---|---|--------------|
| SQSS-41g | BSBS41G | 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 | BSBS37G | |
| SQSS-41h | BSBS41H | 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 | BSBS37H | |
| SQSS-41i | BSBS41I | 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 | BSBS37I | |
| SQSS-42Aa | BSBM42AA | How often does your teacher give you homework in each of the following subjects? Mathematics | BSBM38AA | |
| SQSS-42Ab | BSBB42AB | How often does your teacher give you homework in the following subjects? Biology | BSBB38AB | |
| SQSS-42Ac | BSBE42AC | How often does your teacher give you homework in the following subjects? Earth science | BSBE38AC | |
| SQSS-42Ad | BSBC42AD | How often does your teacher give you homework in the following subjects? Chemistry | BSBC38AD | |
| SQSS-42Ae | BSBP42AE | How often does your teacher give you homework in the following subjects? Physics | BSBP38AE | |
| SQSS-42Ba | BSBM42BA | When your teacher gives you homework in each of the following subjects, about how many minutes do you usually spend on your homework? Mathematics | BSBM38BA | |
| SQSS-42Bb | BSBB42BB | When your teacher gives you homework in each of the following subjects, about how many minutes do you usually spend on your homework? Biology | BSBB38BB | |
| SQSS-42Bc | BSBE42BC | 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 | BSBE38BC | |
| SQSS-42Bd | BSBC42BD | When your teacher gives you homework in each of the following subjects, about how many minutes do you usually spend on your homework? Chemistry | BSBC38BD | |
| SQSS-42Be | BSBP42BE | When your teacher gives you homework in each of the following subjects, about how many minutes do you usually spend on your homework? Physics | BSBP38BE | |
| SQSS-43Aa | BSBM43AA | During the last 12 months, have you attended extra lessons or tutoring not provided by the school in the following subjects? Mathematics | BSBM39AA | |
| SQSS-43Ab | BSBS43AB | 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) | BSBS39AB | |
| SQSS-43Ba | BSBM43BA | For how many of the last 12 months have you attended extra lessons or tutoring? Mathematics | BSBM39BA | |
| SQSS-43Bb | BSBS43BB | For how many of the last 12 months have you attended extra lessons or tutoring? Science (including biology, earth science, chemistry, and physics) | BSBS39BB | |



Identification Label

TRENDS IN INTERNATIONAL MATHEMATICS AND SCIENCE STUDY

Student Questionnaire

Separate Science Subjects

<Grade 8>

<TIMSS National Research Center Name>
<Address>

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TIMSS & PIRLS
International Study Center
Lynch School of Education
BOSTON COLLEGE

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

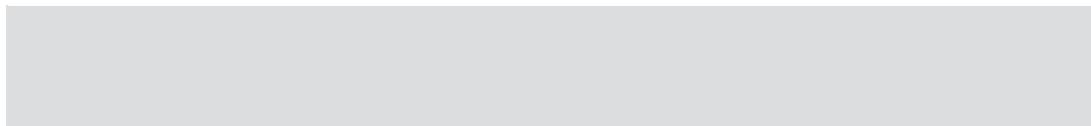
How often do you do these things?

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 -----
- b) I play sports -----
- c) I ride a skateboard -----



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?

BSBG02A

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

BSBG02B

a) Month

January --

February --

March --

April --

May --

June --

July --

August --

September --

October --

November --

December --

b) Year

2001 --

2002 --

2003 --

2004 --

2005 --

2006 --

2007 --

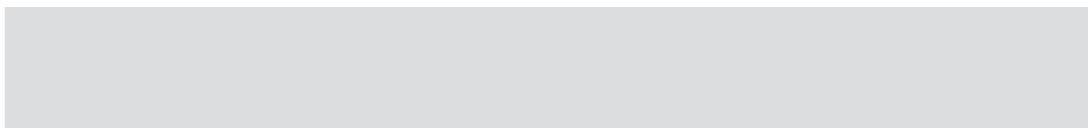
2008 --

2009 --

Other --

3

<Grade 8> Student Questionnaire



3

How often do you speak <language of test> at home?

BSBG03

Fill one circle only.

Always --

Almost always --

Sometimes --

Never --

4

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

BSBG04

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) --

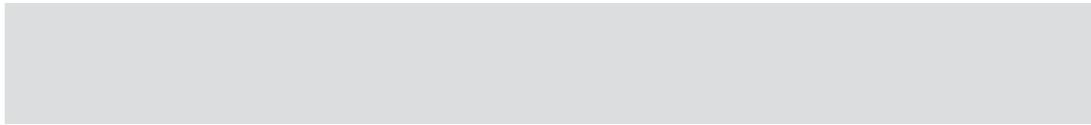
Enough to fill three or more bookcases
(more than 200) --

5

Do you have any of these things at your home?

Fill **one** circle for each line.

- Yes No
- ↓ ↓
- | | | | |
|---------|---|-----------------------|-----------------------------|
| BSBG05A | a) A computer or tablet ----- | <input type="radio"/> | ----- <input type="radio"/> |
| BSBG05B | b) Study desk/table for your use ----- | <input type="radio"/> | ----- <input type="radio"/> |
| BSBG05C | c) Your own room----- | <input type="radio"/> | ----- <input type="radio"/> |
| BSBG05D | d) Internet connection ----- | <input type="radio"/> | ----- <input type="radio"/> |
| BSBG05E | e) Your own mobile phone ----- | <input type="radio"/> | ----- <input type="radio"/> |
| BSBG05F | f) <country-specific indicator of wealth> ----- | <input type="radio"/> | ----- <input type="radio"/> |
| BSBG05G | g) <country-specific indicator of wealth> ----- | <input type="radio"/> | ----- <input type="radio"/> |
| BSBG05H | h) <country-specific indicator of wealth> ----- | <input type="radio"/> | ----- <input type="radio"/> |
| BSBG05I | i) <country-specific indicator of wealth> ----- | <input type="radio"/> | ----- <input type="radio"/> |



The following questions are about your <Parent/Guardian A> and <Parent/Guardian B>. <If you have only one parent/guardian, answer for Parent/Guardian A. If you have two parents/guardians, choose one for Parent/Guardian A and the other for Parent/Guardian B.>

6

What is the highest level of education completed by your <parents/guardians>?

A. <Parent/Guardian A>

BSBG06A

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 --

Not applicable --

6 (continued)

What is the highest level of education completed by your <parents/guardians>?

B. <Parent/Guardian B>

BSBG06B

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> --

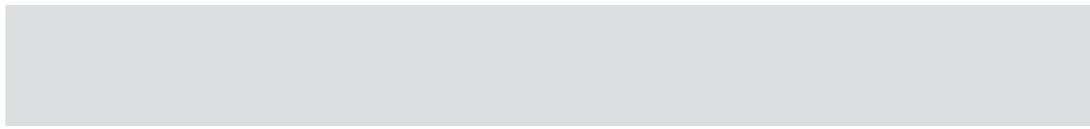
<Short-cycle tertiary education—ISCED Level 5> --

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

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

I don't know --

Not applicable --



7

How far in your education do you expect to go?

BSBG07

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> -----

8

Were your <parents/guardians> born in <country>?

A. <Parent/Guardian A>

BSBG08A

Fill one circle only.

Yes --

No --

I don't know --

Not applicable --

B. <Parent/Guardian B>

BSBG08B

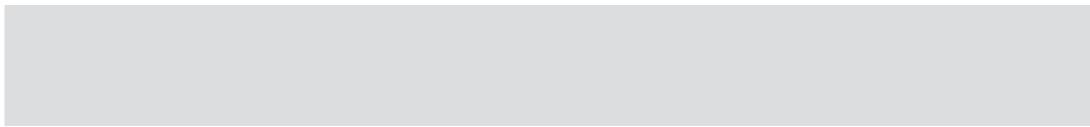
Fill one circle only.

Yes --

No --

I don't know --

Not applicable --



9

A. Were you born in <country>?

BSBG09A

Fill one circle only.

Yes --

(If Yes, go to #10)

No --

If No,

B. If you were not born in <country>, how old were you when you came to <country>?

BSBG09B

Fill one circle only.

Older than 10 years old --

5 to 10 years old --

Younger than 5 years old --

10

About how often are you absent from school?

BSBG10

Fill one circle only.

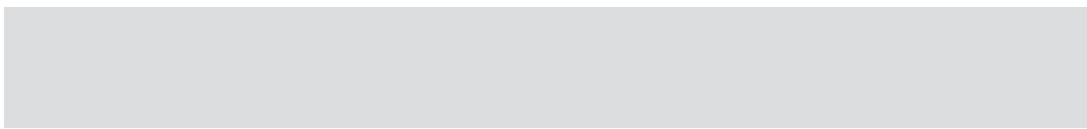
Once a week --

Once every two weeks --

Once a month --

Once every two months --

Never or almost never --



11

How often do you feel this way when you arrive at school?

Fill one circle for each line.

| | Every day | Almost every day | Sometimes | Never |
|------------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| BSBG11A | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| a) I feel tired ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBG11B | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| b) I feel hungry ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

12

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 |
|--|-----------------------|-----------------------|
| BSBG12A | <input type="radio"/> | <input type="radio"/> |
| a) Access the textbook or other course materials ----- | <input type="radio"/> | <input type="radio"/> |
| BSBG12B | <input type="radio"/> | <input type="radio"/> |
| b) Access assignments posted online by my teacher ----- | <input type="radio"/> | <input type="radio"/> |
| BSBG12C | <input type="radio"/> | <input type="radio"/> |
| c) Collaborate with classmates on assignments or projects ----- | <input type="radio"/> | <input type="radio"/> |
| BSBG12D | <input type="radio"/> | <input type="radio"/> |
| d) Communicate with the teacher ----- | <input type="radio"/> | <input type="radio"/> |
| BSBG12E | <input type="radio"/> | <input type="radio"/> |
| e) Find information, articles, or tutorials to aid in understanding mathematics or science ----- | <input type="radio"/> | <input type="radio"/> |
| BSBG12F | <input type="radio"/> | <input type="radio"/> |
| f) Access learning games or activities related to mathematics or science ----- | <input type="radio"/> | <input type="radio"/> |

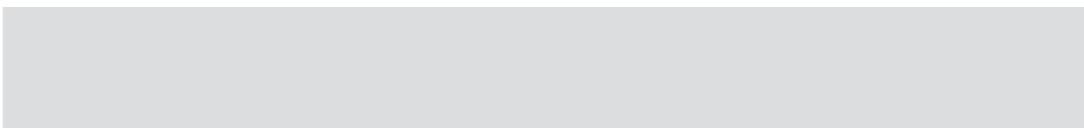
Your School

13

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 |
|---------|---|-----------------------|-----------------------|-----------------------|-----------------------|
| BSBG13A | a) I like being in school ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBG13B | b) I feel safe when I am at school ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBG13C | c) I feel like I belong at this school ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBG13D | d) Teachers at my school are fair to me ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBG13E | e) I am proud to go to this school ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |



14

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 |
|---------|---|----------------------------|-----------------------------|--------------------------|-----------------------|
| BSBG14A | a) Said mean things about my physical appearance (e.g., my hair, my size) ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBG14B | b) Spread lies about me ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBG14C | c) Shared my secrets with others ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBG14D | d) Refused to talk to me ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBG14E | e) Insulted a member of my family --- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBG14F | f) Stole something from me ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBG14G | g) Made me do things I didn't want to do ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBG14H | h) Sent me nasty or hurtful messages online ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBG14I | i) Shared nasty or hurtful things about me online----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBG14J | j) Shared embarrassing photos of me online----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBG14K | k) Threatened me ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBG14L | l) Physically hurt me ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBG14M | m) Excluded me from their group (e.g., parties, messaging) ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBG14N | n) Damaged something of mine on purpose ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Mathematics in School

15

**In mathematics lessons, how often do you work problems
on your own?**

BSBM15

Fill one circle only.

Every or almost every lesson --

About half the lessons --

Some lessons --

Never --

13

<Grade 8> Student Questionnaire

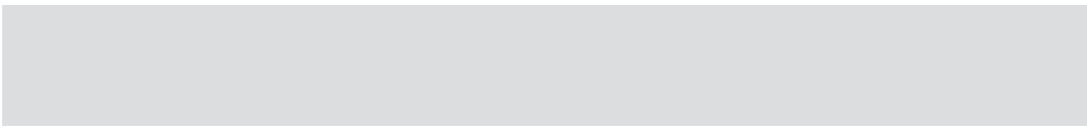


16

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 |
|---------|-----------------------|-----------------------|-----------------------|-----------------------|
| BSBM16A | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBM16B | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBM16C | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBM16D | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBM16E | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBM16F | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBM16G | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBM16H | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBM16I | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

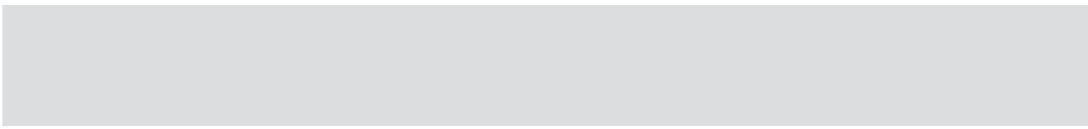


17

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 |
|---------|---|-----------------------|-----------------------|-----------------------|-----------------------|
| BSBM17A | a) I know what my teacher expects me to do ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBM17B | b) My teacher is easy to understand -- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBM17C | c) My teacher has clear answers to my questions ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBM17D | d) My teacher is good at explaining mathematics ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBM17E | e) My teacher does a variety of things to help us learn ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBM17F | f) My teacher links new lessons to what I already know ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBM17G | g) My teacher explains a topic again when we don't understand ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

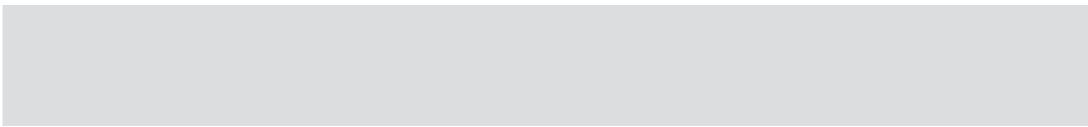


18

How often do these things happen in your mathematics lessons?

Fill one circle for each line.

| | Every or almost every lesson | About half the lessons | Some lessons | Never |
|--|---------------------------------------|---------------------------------|-----------------------|-----------------------|
| BSBM18A a) Students don't listen to what the teacher says ----- | ↓ | ↓ | ↓ | ↓ |
| BSBM18B b) There is disruptive noise ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBM18C c) It is too disorderly for students to work well ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBM18D d) My teacher has to wait a long time for students to quiet down ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBM18E e) Students interrupt the teacher ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBM18F f) My teacher has to keep telling us to follow the classroom rules ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

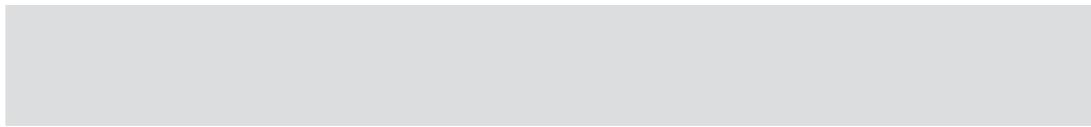


19

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 --- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBM19B b) Mathematics is more difficult for me than for many of my classmates ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBM19C c) Mathematics is not one of my strengths ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBM19D d) I learn things quickly in mathematics ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBM19E e) Mathematics makes me nervous ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBM19F f) I am good at working out difficult mathematics problems ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBM19G g) My teacher tells me I am good at mathematics ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBM19H h) Mathematics is harder for me than any other subject ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBM19I i) Mathematics makes me confused ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |



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 | ----- <input type="radio"/> | ----- <input type="radio"/> | ----- <input type="radio"/> | ----- <input type="radio"/> |
| BSBM20B | ----- <input type="radio"/> | ----- <input type="radio"/> | ----- <input type="radio"/> | ----- <input type="radio"/> |
| BSBM20C | ----- <input type="radio"/> | ----- <input type="radio"/> | ----- <input type="radio"/> | ----- <input type="radio"/> |
| BSBM20D | ----- <input type="radio"/> | ----- <input type="radio"/> | ----- <input type="radio"/> | ----- <input type="radio"/> |
| BSBM20E | ----- <input type="radio"/> | ----- <input type="radio"/> | ----- <input type="radio"/> | ----- <input type="radio"/> |
| BSBM20F | ----- <input type="radio"/> | ----- <input type="radio"/> | ----- <input type="radio"/> | ----- <input type="radio"/> |
| BSBM20G | ----- <input type="radio"/> | ----- <input type="radio"/> | ----- <input type="radio"/> | ----- <input type="radio"/> |
| BSBM20H | ----- <input type="radio"/> | ----- <input type="radio"/> | ----- <input type="radio"/> | ----- <input type="radio"/> |
| BSBM20I | ----- <input type="radio"/> | ----- <input type="radio"/> | ----- <input type="radio"/> | ----- <input type="radio"/> |

Biology in School

21

Are you studying biology in school this year?

BSBB21

Fill one circle only.

Yes --

No -- 

(If No, go to #26)

22

In biology lessons, how often does your teacher ask you to conduct biology experiments?

BSBB22

Fill one circle only.

At least once a week --

Once or twice a month --

A few times a year --

Never --

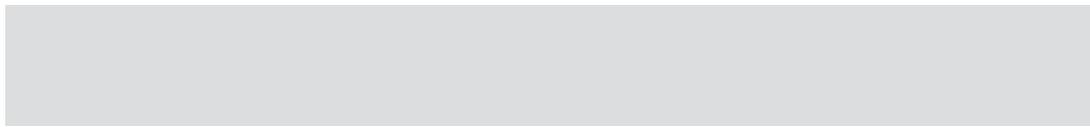


23

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 |
|--|-----------------------|-----------------------|-----------------------|-----------------------|
| BSBB23A a) I enjoy learning biology ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBB23B b) I wish I did not have to study biology ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBB23C c) Biology is boring ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBB23D d) I learn many interesting things in biology ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBB23E e) I like biology ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBB23F f) I look forward to learning biology in school ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBB23G g) Biology teaches me how things in the world work ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBB23H h) I like to conduct biology experiments ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBB23I i) Biology is one of my favorite subjects ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

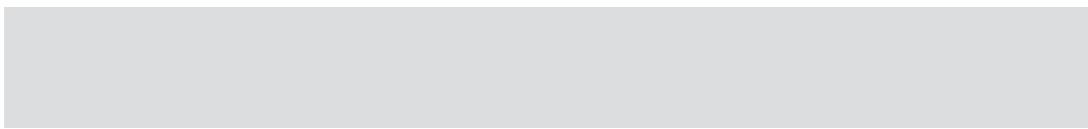


24

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 |
|---|-----------------------|-----------------------|-----------------------|-----------------------|
| BSBB24A a) I know what my teacher expects me to do ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBB24B b) My teacher is easy to understand -- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBB24C c) My teacher has clear answers to my questions ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBB24D d) My teacher is good at explaining biology ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBB24E e) My teacher does a variety of things to help us learn ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBB24F f) My teacher links new lessons to what I already know ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBB24G g) My teacher explains a topic again when we don't understand --- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |



25

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 |
|---|-----------------------|-----------------------|-----------------------|-----------------------|
| BSBB25A a) I usually do well in biology ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBB25B b) Biology is more difficult for me than for many of my classmates ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBB25C c) Biology is not one of my strengths ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBB25D d) I learn things quickly in biology ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBB25E e) I am good at working out difficult biology problems ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBB25F f) My teacher tells me I am good at biology ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBB25G g) Biology is harder for me than any other subject ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBB25H h) Biology makes me confused ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Earth Science in School

26

Are you studying earth science in school this year?

BSBE26

Fill one circle only.

Yes --

No -- 

(If No, go to #31)

27

In earth science lessons, how often does your teacher ask you to conduct earth science experiments?

BSBE27

Fill one circle only.

At least once a week --

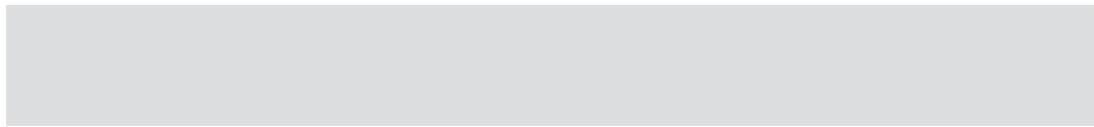
Once or twice a month --

A few times a year --

Never --

23

<Grade 8> Student Questionnaire



28

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 |
|--|-----------------------|-----------------------|-----------------------|-----------------------|
| BSBE28A a) I enjoy learning earth science ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBE28B b) I wish I did not have to study earth science ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBE28C c) Earth science is boring ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBE28D d) I learn many interesting things in earth science ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBE28E e) I like earth science ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBE28F f) I look forward to learning earth science in school ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBE28G g) Earth science teaches me how things in the world work ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBE28H h) I like to conduct earth science experiments ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBE28I i) Earth science is one of my favorite subjects ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |



29

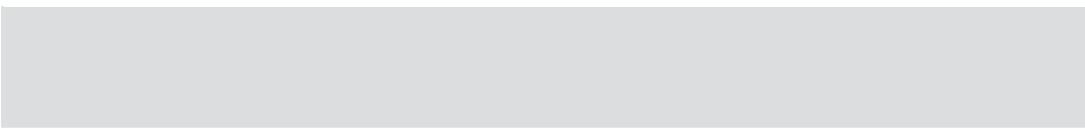
How much do you agree with these statements about your earth science lessons?

Fill **one** circle for each line.

| | | Agree a lot | Agree a little | Disagree a little | Disagree a lot |
|---------|---|-----------------------|-----------------------|-----------------------|-----------------------|
| BSBE29A | a) I know what my teacher expects me to do ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBE29B | b) My teacher is easy to understand -- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBE29C | c) My teacher has clear answers to my questions ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBE29D | d) My teacher is good at explaining earth science ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBE29E | e) My teacher does a variety of things to help us learn ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBE29F | f) My teacher links new lessons to what I already know ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBE29G | g) My teacher explains a topic again when we don't understand --- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

25

<Grade 8> Student Questionnaire



30

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 |
|--|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| BSBE30A a) I usually do well in earth science | ----- <input type="radio"/> | ----- <input type="radio"/> | ----- <input type="radio"/> | ----- <input type="radio"/> |
| BSBE30B b) Earth science is more difficult for me than for many of my classmates | ----- <input type="radio"/> | ----- <input type="radio"/> | ----- <input type="radio"/> | ----- <input type="radio"/> |
| BSBE30C c) Earth science is not one of my strengths | ----- <input type="radio"/> | ----- <input type="radio"/> | ----- <input type="radio"/> | ----- <input type="radio"/> |
| BSBE30D d) I learn things quickly in earth science | ----- <input type="radio"/> | ----- <input type="radio"/> | ----- <input type="radio"/> | ----- <input type="radio"/> |
| BSBE30E e) I am good at working out difficult earth science problems | ----- <input type="radio"/> | ----- <input type="radio"/> | ----- <input type="radio"/> | ----- <input type="radio"/> |
| BSBE30F f) My teacher tells me I am good at earth science | ----- <input type="radio"/> | ----- <input type="radio"/> | ----- <input type="radio"/> | ----- <input type="radio"/> |
| BSBE30G g) Earth science is harder for me than any other subject | ----- <input type="radio"/> | ----- <input type="radio"/> | ----- <input type="radio"/> | ----- <input type="radio"/> |
| BSBE30H h) Earth science makes me confused | ----- <input type="radio"/> | ----- <input type="radio"/> | ----- <input type="radio"/> | ----- <input type="radio"/> |

Chemistry in School

31

Are you studying chemistry in school this year?

BSBC31

Fill one circle only.

Yes --

No -- 

(If No, go to #36)

32

In chemistry lessons, how often does your teacher ask you to conduct chemistry experiments?

BSBC32

Fill one circle only.

At least once a week --

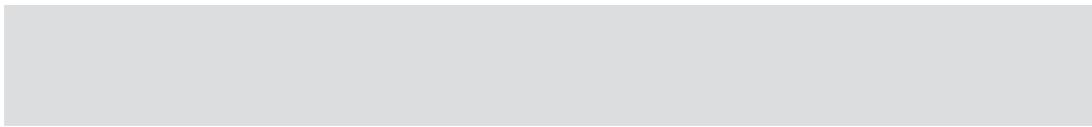
Once or twice a month --

A few times a year --

Never --

27

<Grade 8> Student Questionnaire

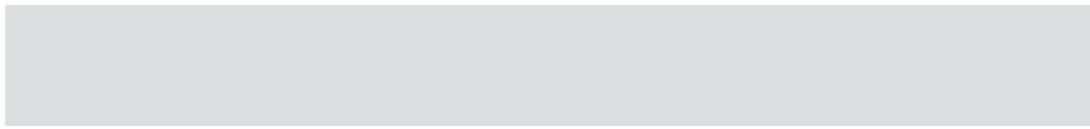


33

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 |
|---------|--|-----------------------|-----------------------|-----------------------|-----------------------|
| BSBC33A | a) I enjoy learning chemistry | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBC33B | b) I wish I did not have to study chemistry | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBC33C | c) Chemistry is boring | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBC33D | d) I learn many interesting things in chemistry | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBC33E | e) I like chemistry | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBC33F | f) I look forward to learning chemistry in school | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBC33G | g) Chemistry teaches me how things in the world work | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBC33H | h) I like to conduct chemistry experiments | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBC33I | i) Chemistry is one of my favorite subjects | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

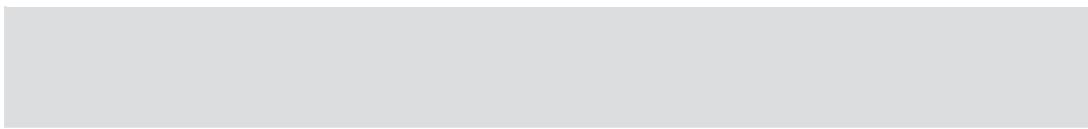


34

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 |
|---|-----------------------|-----------------------|-----------------------|-----------------------|
| BSBC34A a) I know what my teacher expects me to do ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBC34B b) My teacher is easy to understand -- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBC34C c) My teacher has clear answers to my questions ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBC34D d) My teacher is good at explaining chemistry ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBC34E e) My teacher does a variety of things to help us learn ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBC34F f) My teacher links new lessons to what I already know ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBC34G g) My teacher explains a topic again when we don't understand --- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |



35

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 |
|---------|--|-----------------------|-----------------------|-----------------------|-----------------------|
| BSBC35A | a) I usually do well in chemistry ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBC35B | b) Chemistry is more difficult for me than for many of my classmates ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBC35C | c) Chemistry is not one of my strengths ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBC35D | d) I learn things quickly in chemistry ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBC35E | e) I am good at working out difficult chemistry problems ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBC35F | f) My teacher tells me I am good at chemistry ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBC35G | g) Chemistry is harder for me than any other subject ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBC35H | h) Chemistry makes me confused ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Physics in School

36

Are you studying physics in school this year?

BSBP36

Fill one circle only.

Yes --

No -- 

(If No, go to #41)

37

In physics lessons, how often does your teacher ask you to conduct physics experiments?

BSBP37

Fill one circle only.

At least once a week --

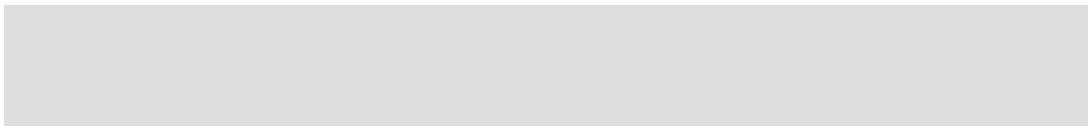
Once or twice a month --

A few times a year --

Never --

31

<Grade 8> Student Questionnaire

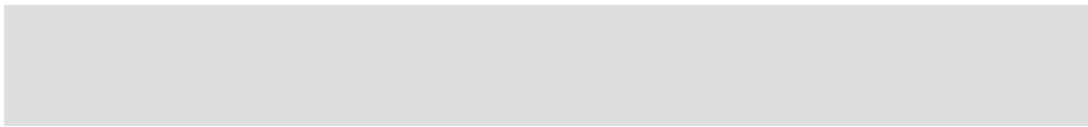


38

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 |
|--|-----------------------|-----------------------|-----------------------|-----------------------|
| BSBP38A a) I enjoy learning physics ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBP38B b) I wish I did not have to study physics ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBP38C c) Physics is boring ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBP38D d) I learn many interesting things in physics ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBP38E e) I like physics ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBP38F f) I look forward to learning physics in school ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBP38G g) Physics teaches me how things in the world work ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBP38H h) I like to conduct physics experiments ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBP38I i) Physics is one of my favorite subjects ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

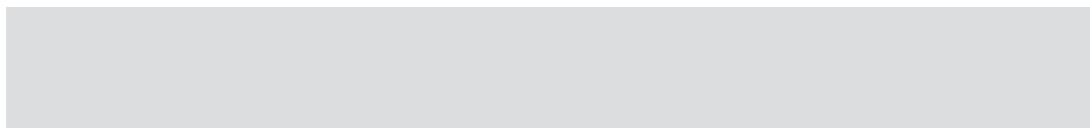


39

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 |
|---------|---|-----------------------|-----------------------|-----------------------|-----------------------|
| BSBP39A | a) I know what my teacher expects me to do ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBP39B | b) My teacher is easy to understand -- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBP39C | c) My teacher has clear answers to my questions ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBP39D | d) My teacher is good at explaining physics ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBP39E | e) My teacher does a variety of things to help us learn ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBP39F | f) My teacher links new lessons to what I already know ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBP39G | g) My teacher explains a topic again when we don't understand --- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |



40

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 |
|--|-----------------------|-----------------------|-----------------------|-----------------------|
| BSBP40A a) I usually do well in physics ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBP40B b) Physics is more difficult for me than for many of my classmates ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBP40C c) Physics is not one of my strengths ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBP40D d) I learn things quickly in physics ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBP40E e) I am good at working out difficult physics problems ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBP40F f) My teacher tells me I am good at physics ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBP40G g) Physics is harder for me than any other subject ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBP40H h) Physics makes me confused ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Learning Science

41

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

Fill one circle for each line.

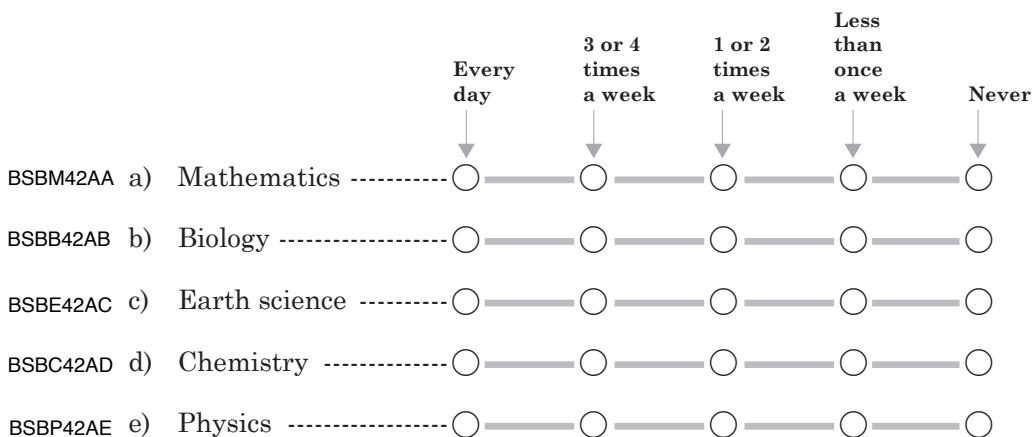
| | Agree a lot | Agree a little | Disagree a little | Disagree a lot |
|---|-----------------------|-----------------------|-----------------------|-----------------------|
| BSBS41A a) I think learning science will help me in my daily life ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBS41B b) I need science to learn other school subjects ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBS41C c) I need to do well in science to get into the <university> of my choice - ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBS41D d) I need to do well in science to get the job I want ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBS41E e) I would like a job that involves using science ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBS41F f) It is important to learn about science to get ahead in the world ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBS41G g) Learning science will give me more job opportunities when I am an adult ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBS41H h) My parents think that it is important that I do well in science ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBS41I i) It is important to do well in science ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Homework

42

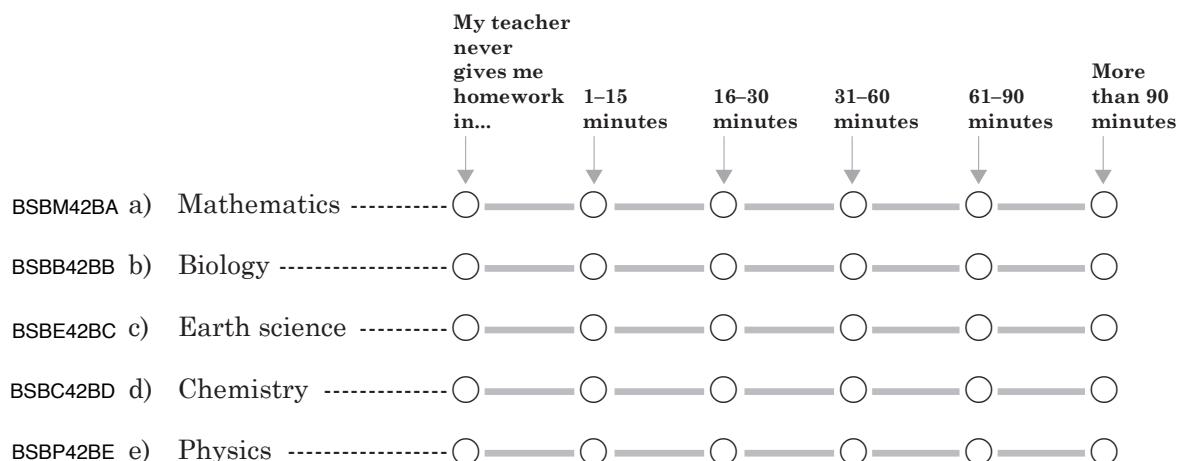
- A. How often does your teacher give you homework in each of the following subjects?

Fill one circle for each line.



- 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.



43

- 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.

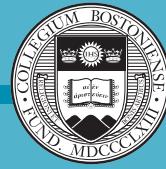
| | Yes, to excel in class | Yes, to keep up in class | No |
|--|------------------------------|--------------------------------|-----------------------|
| BSBM43AA a) Mathematics ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBS43AB b) Science (including biology, 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 |
|--|-----------------------|-----------------------|-----------------------|-----------------------|
| BSBM43BA a) Mathematics ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBS43BB b) Science (including biology, earth science, chemistry, and physics) ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Thank You!
Thank you for filling out the questionnaire!



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<Grade 8>



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SECTION 2.3:

STUDENT QUESTIONNAIRE—

eTIMSS SUPPLEMENT

GRADE 8

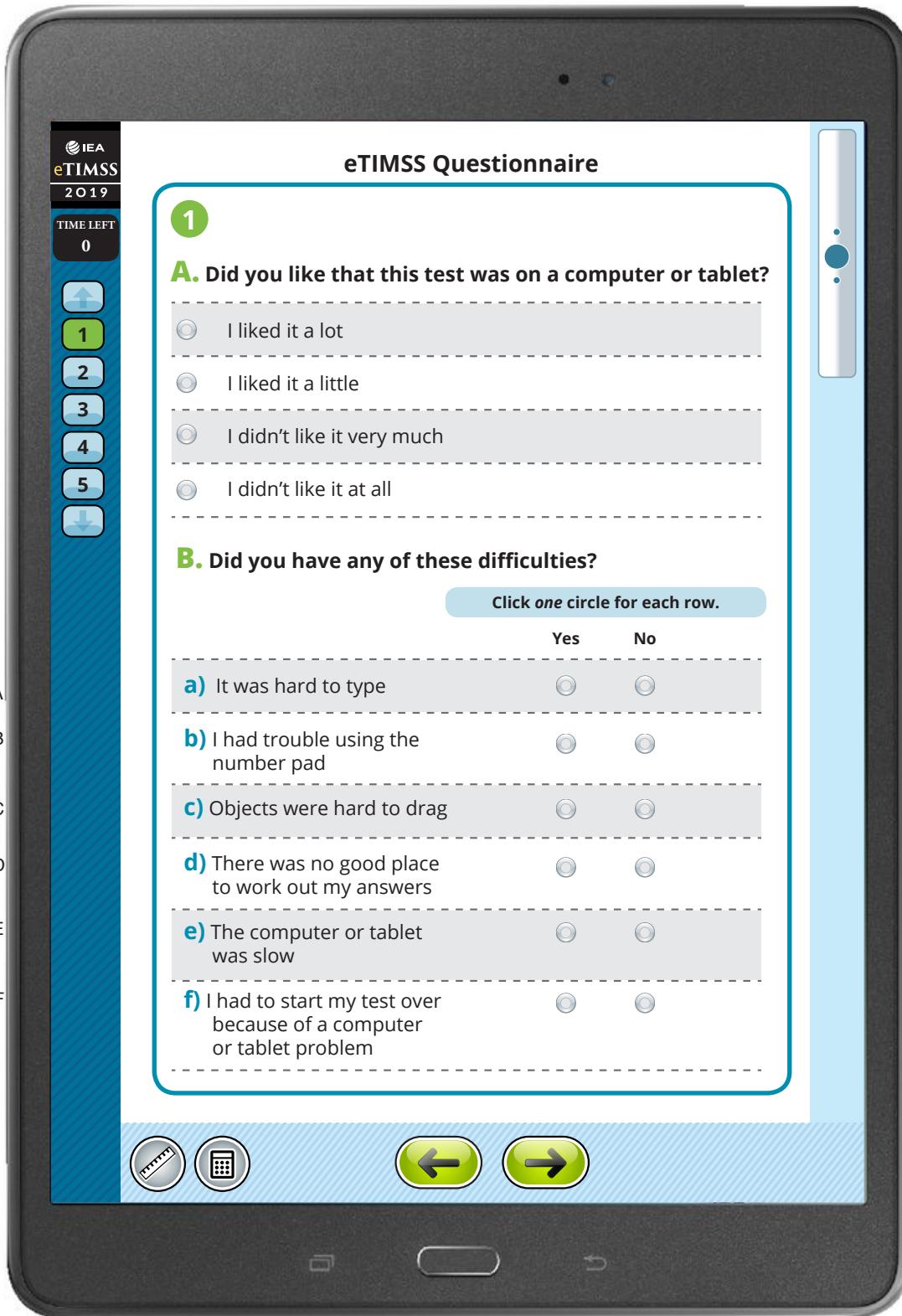
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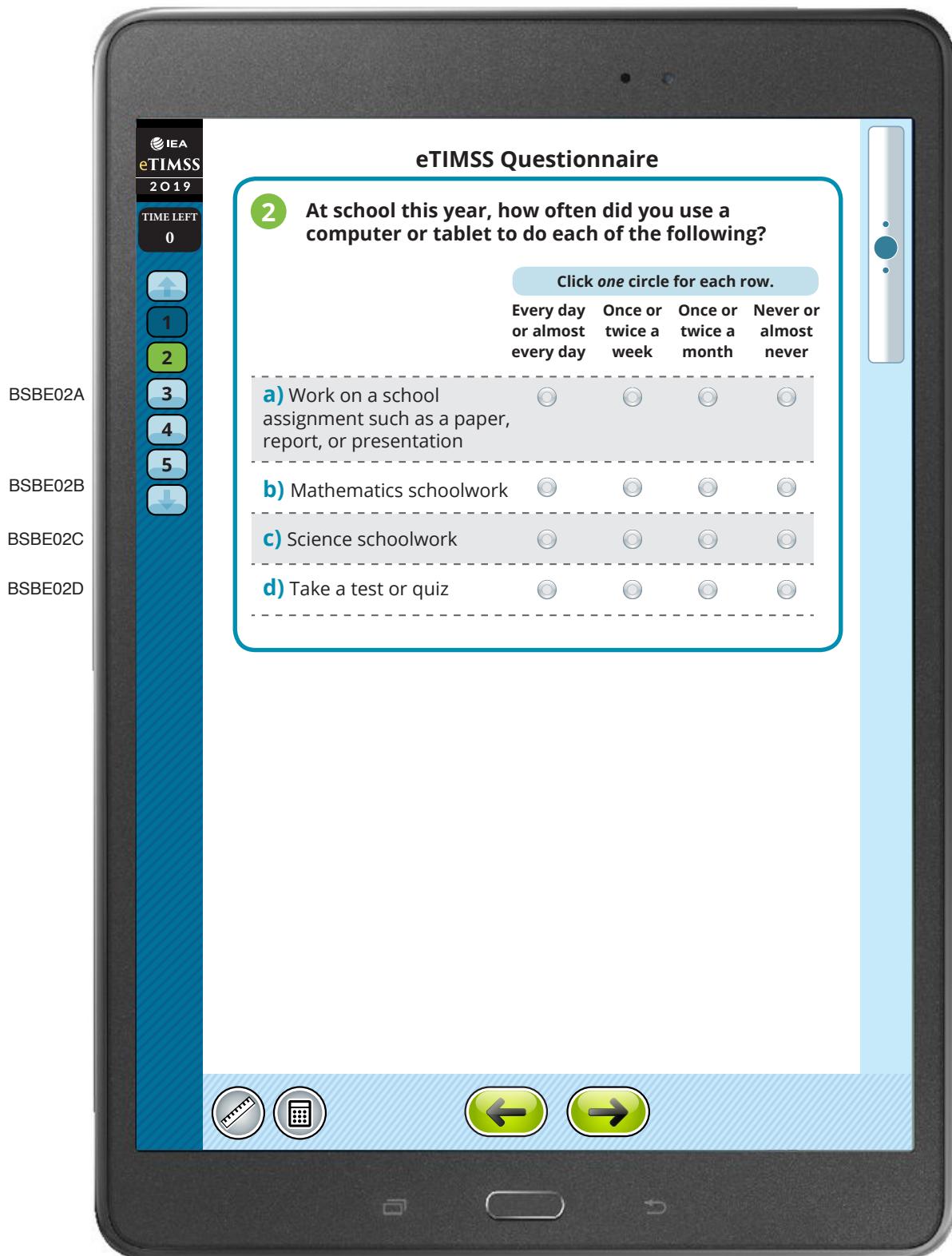


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**Exhibit 2.3: International Context Variables for the TIMSS 2019 Student Questionnaire—eTIMSS Supplement
(Grade 8)**

| TIMSS 2019 Question Number | TIMSS 2019 Variable Name | TIMSS 2019 Variable Description |
|-------------------------------------|-----------------------------------|---|
| SQE-01A | BSBE01A | Did you like that this test was on a computer or tablet? |
| SQE-01Ba | BSBE01BA | Did you have any of these difficulties? It was hard to type |
| SQE-01Bb | BSBE01BB | Did you have any of these difficulties? I had trouble using the number pad |
| SQE-01Bc | BSBE01BC | Did you have any of these difficulties? Objects were hard to drag |
| SQE-01Bd | BSBE01BD | Did you have any of these difficulties? There was no good place to work out my answers |
| SQE-01Be | BSBE01BE | Did you have any of these difficulties? The computer or tablet was slow |
| SQE-01Bf | BSBE01BF | Did you have any of these difficulties? I had to start my test over because of a computer or tablet problem |
| SQE-02a | BSBE02A | At school this year, how often did you use a computer or tablet to do each of the following? Work on a school assignment such as a paper, report, or presentation |
| SQE-02b | BSBE02B | At school this year, how often did you use a computer or tablet to do each of the following? Mathematics schoolwork |
| SQE-02c | BSBE02C | At school this year, how often did you use a computer or tablet to do each of the following? Science schoolwork |
| SQE-02d | BSBE02D | At school this year, how often did you use a computer or tablet to do each of the following? Take a test or quiz |
| SQE-03a | BSBE03A | How much do you agree with these statements? I am good at using a computer |
| SQE-03b | BSBE03B | How much do you agree with these statements? I am good at typing |
| SQE-03c | BSBE03C | How much do you agree with these statements? I can use a touchscreen on a computer, tablet, or smartphone |
| SQE-03d | BSBE03D | How much do you agree with these statements? It is easy for me to find information on the Internet |
| SQE-03e | BSBE03E | How much do you agree with these statements? I can look up the meanings of words on the Internet |
| SQE-03f | BSBE03F | How much do you agree with these statements? I can write sentences and paragraphs using a computer |
| SQE-03g | BSBE03G | How much do you agree with these statements? I can edit text on a computer |
| SQE-04a | BSBE04A | How well do you know the meaning of each of the following terms? WiFi |
| SQE-04b | BSBE04B | How well do you know the meaning of each of the following terms? Firewall |
| SQE-04c | BSBE04C | How well do you know the meaning of each of the following terms? Instant messaging |
| SQE-04d | BSBE04D | How well do you know the meaning of each of the following terms? Cut and paste |
| SQE-04e | BSBE04E | How well do you know the meaning of each of the following terms? Spreadsheet |
| SQE-04f | BSBE04F | How well do you know the meaning of each of the following terms? Icon |
| SQE-04g | BSBE04G | How well do you know the meaning of each of the following terms? Drag and drop |
| SQE-04h | BSBE04H | How well do you know the meaning of each of the following terms? Scroll |





eTIMSS Questionnaire

3 How much do you agree with these statements?

Click one circle for each row.

| | Agree a lot | Agree a little | Disagree a little | Disagree a lot |
|---------|-----------------------|-----------------------|-----------------------|-----------------------|
| BSBE03A | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBE03B | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBE03C | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBE03D | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBE03E | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBE03F | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| BSBE03G | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

eTIMSS Questionnaire

4 How well do you know the meaning of each of the following terms?

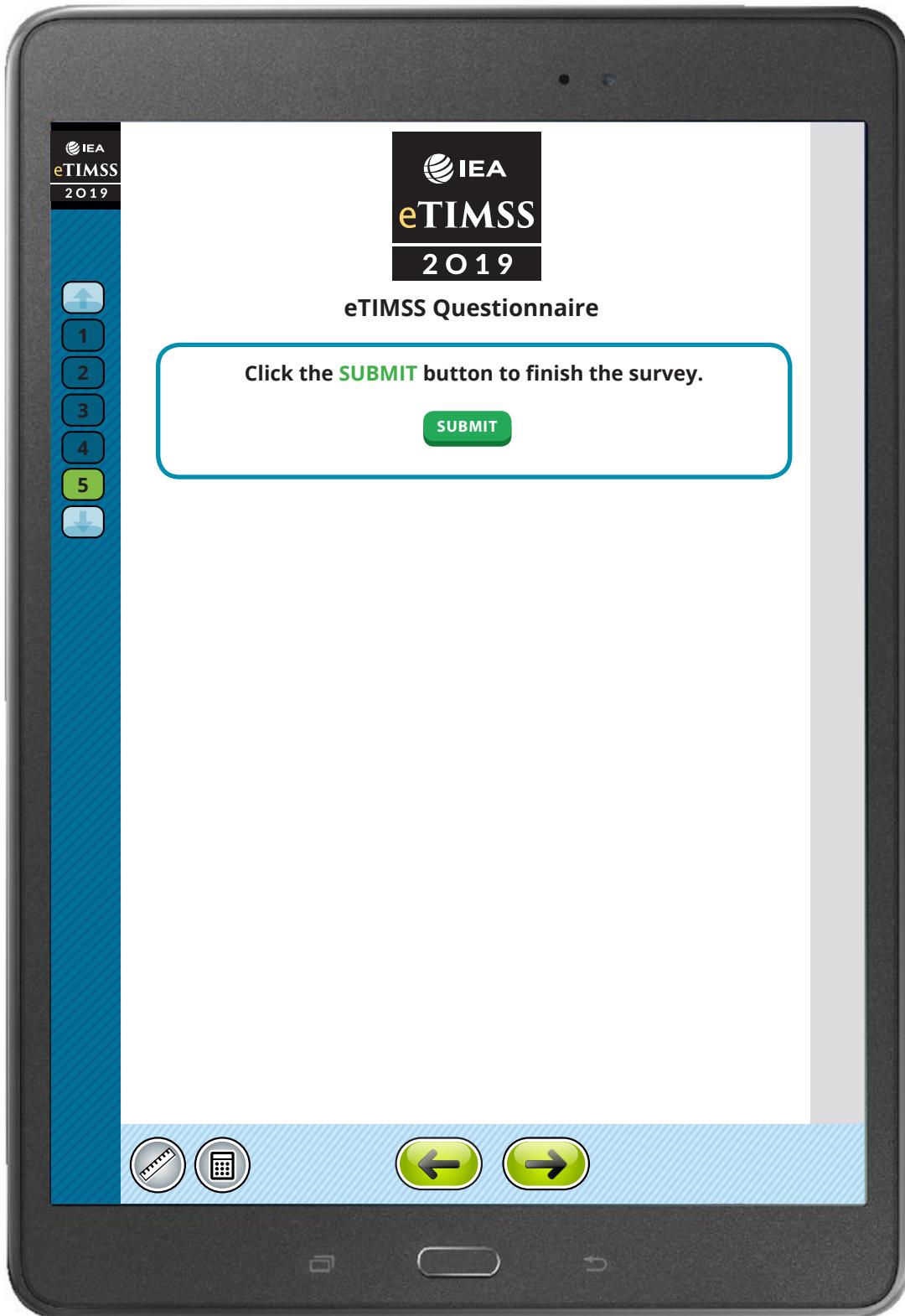
Click one circle for each row.

| | Very well | Well | A little | Not at all |
|----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| a) WiFi | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| b) Firewall | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| c) Instant messaging | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| d) Cut and paste | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| e) Spreadsheet | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| f) Icon | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| g) Drag and drop | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| h) Scroll | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

TIME LEFT
0

BSBE04A
BSBE04B
BSBE04C
BSBE04D
BSBE04E
BSBE04F
BSBE04G
BSBE04H

← →





SECTION 2.4: TEACHER QUESTIONNAIRE— MATHEMATICS GRADE 8

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Exhibit 2.4: International Context Variables for the TIMSS 2019 Teacher Questionnaire—Mathematics (Grade 8)

| TIMSS 2019 Question Number | TIMSS 2019 Variable Name | TIMSS 2019 Variable Description | TIMSS 2015 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 | |
| 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 | BTBG06A | |
| TQG-06b | BTBG06B | How would you characterize each of the following within your school? Teachers' degree of success in implementing the school's curriculum | BTBG06B | |
| TQG-06c | BTBG06C | How would you characterize each of the following within your school? Teachers' expectations for student achievement | BTBG06C | |
| TQG-06d | BTBG06D | How would you characterize each of the following within your school? Teachers' ability to inspire students | BTBG06E | |
| TQG-06e | BTBG06E | How would you characterize each of the following within your school? Parental involvement in school activities | BTBG06F | |
| TQG-06f | BTBG06F | How would you characterize each of the following within your school? Parental commitment to ensure that students are ready to learn | BTBG06G | |
| TQG-06g | BTBG06G | How would you characterize each of the following within your school? Parental expectations for student achievement | BTBG06H | |
| TQG-06h | BTBG06H | How would you characterize each of the following within your school? Parental support for student achievement | BTBG06I | |
| TQG-06i | BTBG06I | How would you characterize each of the following within your school? Students' desire to do well in school | BTBG06K | |
| TQG-06j | BTBG06J | How would you characterize each of the following within your school? Students' ability to reach school's academic goals | BTBG06L | |
| TQG-06k | BTBG06K | How would you characterize each of the following within your school? Students' respect for classmates who excel academically | BTBG06M | Modified wording in 2019 |
| TQG-06l | BTBG06L | How would you characterize each of the following within your school? Collaboration between school leadership (including master teachers) and teachers to plan instruction | BTBG06O | Modified wording in 2019 |

Exhibit 2.4: International Context Variables for the TIMSS 2019 Teacher Questionnaire—Mathematics (Grade 8)

| TIMSS 2019 Question Number | TIMSS 2019 Variable Name | TIMSS 2019 Variable Description | TIMSS 2015 Variable Name | Notes |
|---|---|--|---|--------------|
| 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 | BTBG07F | |
| 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 | BTBG07G | |
| 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 | BTBG07H | |
| TQG-08a | BTBG08A | How often do you feel the following way about being a teacher? I am content with my profession as a teacher | BTBG10A | |
| TQG-08b | BTBG08B | How often do you feel the following way about being a teacher? I find my work full of meaning and purpose | BTBG10C | |
| TQG-08c | BTBG08C | How often do you feel the following way about being a teacher? I am enthusiastic about my job | BTBG10D | |
| TQG-08d | BTBG08D | How often do you feel the following way about being a teacher? My work inspires me | BTBG10E | |
| TQG-08e | BTBG08E | How often do you feel the following way about being a teacher? I am proud of the work I do | BTBG10F | |
| TQG-09a | BTBG09A | Indicate the extent to which you agree or disagree with each of the following statements. There are too many students in the classes | BTBG11A | |
| TQG-09b | BTBG09B | Indicate the extent to which you agree or disagree with each of the following statements. I have too much material to cover in class | BTBG11B | |
| TQG-09c | BTBG09C | Indicate the extent to which you agree or disagree with each of the following statements. I have too many teaching hours | BTBG11C | |
| TQG-09d | BTBG09D | Indicate the extent to which you agree or disagree with each of the following statements. I need more time to prepare for class | BTBG11D | |
| TQG-09e | BTBG09E | Indicate the extent to which you agree or disagree with each of the following statements. I need more time to assist individual students | BTBG11E | |
| TQG-09f | BTBG09F | Indicate the extent to which you agree or disagree with each of the following statements. I feel too much pressure from parents | BTBG11F | |
| TQG-09g | BTBG09G | 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 | BTBG11G | |

Exhibit 2.4: International Context Variables for the TIMSS 2019 Teacher Questionnaire—Mathematics (Grade 8)

| TIMSS 2019 Question Number | TIMSS 2019 Variable Name | TIMSS 2019 Variable Description | TIMSS 2015 Variable Name | Notes |
|----------------------------|--------------------------|---|--------------------------|--------------------------|
| TQG-09h | BTBG09H | Indicate the extent to which you agree or disagree with each of the following statements. I have too many administrative tasks | BTBG11H | |
| TQG-10 | BTBG10 | How many students are in this class? | BTBG12 | |
| TQG-11 | BTBG11 | How many <eighth grade> students experience difficulties understanding spoken <language of test>? | BTBG13 | |
| TQG-12a | BTBG12A | How often do you do the following in teaching this class? Relate the lesson to students' daily lives | BTBG14A | |
| TQG-12b | BTBG12B | How often do you do the following in teaching this class? Ask students to explain their answers | BTBG14B | |
| TQG-12c | BTBG12C | 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 | BTBG14C | |
| TQG-12d | BTBG12D | How often do you do the following in teaching this class? Encourage classroom discussions among students | BTBG14D | |
| TQG-12e | BTBG12E | How often do you do the following in teaching this class? Link new content to students' prior knowledge | BTBG14E | |
| TQG-12f | BTBG12F | How often do you do the following in teaching this class? Ask students to decide their own problem solving procedures | BTBG14F | |
| TQG-12g | BTBG12G | How often do you do the following in teaching this class? Encourage students to express their ideas in class | BTBG14G | |
| TQG-13a | BTBG13A | In your view, to what extent do the following limit how you teach this class? Students lacking prerequisite knowledge or skills | BTBG15A | |
| TQG-13b | BTBG13B | In your view, to what extent do the following limit how you teach this class? Students suffering from lack of basic nutrition | BTBG15B | |
| TQG-13c | BTBG13C | In your view, to what extent do the following limit how you teach this class? Students suffering from not enough sleep | BTBG15C | |
| TQG-13d | BTBG13D | In your view, to what extent do the following limit how you teach this class? Students absent from class | | |
| TQG-13e | BTBG13E | In your view, to what extent do the following limit how you teach this class? Disruptive students | BTBG15D | |
| TQG-13f | BTBG13F | In your view, to what extent do the following limit how you teach this class? Uninterested students | BTBG15E | |
| TQG-13g | BTBG13G | In your view, to what extent do the following limit how you teach this class? Students with mental, emotional, or psychological impairment | BTBG15G | Modified wording in 2019 |
| TQG-13h | BTBG13H | In your view, to what extent do the following limit how you teach this class? Students with difficulties understanding the language of instruction | | |
| TQM-14 | BTBM14 | In a typical week, how much time do you spend teaching mathematics to the students in this class? (minutes) | BTBM16 | |
| TQM-15a | BTBM15A | In teaching mathematics to this class, how often do you ask students to do the following? Listen to me explain new mathematics content | BTBM18A | |
| TQM-15b | BTBM15B | In teaching mathematics to this class, how often do you ask students to do the following? Listen to me explain how to solve problems | BTBM18B | |
| TQM-15c | BTBM15C | In teaching mathematics to this class, how often do you ask students to do the following? Memorize rules, procedures, and facts | BTBM18C | |
| TQM-15d | BTBM15D | In teaching mathematics to this class, how often do you ask students to do the following? Practice procedures on their own | | |

Exhibit 2.4: International Context Variables for the TIMSS 2019 Teacher Questionnaire—Mathematics (Grade 8)

| TIMSS 2019 Question Number | TIMSS 2019 Variable Name | TIMSS 2019 Variable Description | TIMSS 2015 Variable Name | Notes |
|---|---|--|---|--------------|
| TQM-15e | BTBM15E | In teaching mathematics to this class, how often do you ask students to do the following? Apply what they have learned to new problem situations on their own | | |
| TQM-15f | BTBM15F | 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 | BTBM18E | |
| TQM-15g | BTBM15G | In teaching mathematics to this class, how often do you ask students to do the following? Work in mixed ability groups | BTBM18I | |
| TQM-15h | BTBM15H | In teaching mathematics to this class, how often do you ask students to do the following? Work in same ability groups | BTBM18J | |
| TQM-16 | BTBM16 | Are the students in this class permitted to use calculators during mathematics lessons? | BTBM19A | |
| TQM-17A | BTBM17A | Do the students in this class have computers (including tablets) available to use during their mathematics lessons? | BTBM20A | |
| TQM-17Ba | BTBM17BA | What access do the students have to computers? Each student has a computer | BTBM20BA | |
| TQM-17Bb | BTBM17BB | What access do the students have to computers? The class has computers that students can share | BTBM20BB | |
| TQM-17Bc | BTBM17BC | What access do the students have to computers? The school has computers that the class can use sometimes | BTBM20BC | |
| TQM-17Ca | BTBM17CA | How often do you do activities on computers during mathematics lessons to support learning for: Whole class | | |
| TQM-17Cb | BTBM17CB | How often do you do activities on computers during mathematics lessons to support learning for: Low-performing students | | |
| TQM-17Cc | BTBM17CC | How often do you do activities on computers during mathematics lessons to support learning for: High-performing students | | |
| TQM-17Cd | BTBM17CD | How often do you do activities on computers during mathematics lessons to support learning for: Students with special needs | | |
| TQM-18Aa | BTBM18AA | When students in this class have been taught each of the following mathematics topics. Number: Computing with negative numbers | See TQM-21 in 2015 for sub-topics | |
| TQM-18Ab | BTBM18AB | When students in this class have been taught each of the following mathematics topics. Number: Concepts of fractions and decimals | See TQM-21 in 2015 for sub-topics | |
| TQM-18Ac | BTBM18AC | When students in this class have been taught each of the following mathematics topics. Number: Solving problems involving proportions and percents | See TQM-21 in 2015 for sub-topics | |
| TQM-18Ba | BTBM18BA | When students in this class have been taught each of the following mathematics topics. Algebra: Simplifying and evaluating algebraic expressions | See TQM-21 in 2015 for sub-topics | |
| TQM-18Bb | BTBM18BB | When students in this class have been taught each of the following mathematics topics. Algebra: Simple linear equations | See TQM-21 in 2015 for sub-topics | |
| TQM-18Bc | BTBM18BC | When students in this class have been taught each of the following mathematics topics. Algebra: Simple linear inequalities | See TQM-21 in 2015 for sub-topics | |

Exhibit 2.4: International Context Variables for the TIMSS 2019 Teacher Questionnaire—Mathematics (Grade 8)

| TIMSS 2019 Question Number | TIMSS 2019 Variable Name | TIMSS 2019 Variable Description | TIMSS 2015 Variable Name | Notes |
|-------------------------------------|-----------------------------------|---|-----------------------------------|-------|
| TQM-18Bd | BTBM18BD | When students in this class have been taught each of the following mathematics topics. Algebra: Simultaneous (two variables) equations | See TQM-21 in 2015 for sub-topics | |
| TQM-18Be | BTBM18BE | When students in this class have been taught each of the following mathematics topics. Algebra: Representation of linear and quadratic functions in tables, graphs, words, or equations | See TQM-21 in 2015 for sub-topics | |
| TQM-18Bf | BTBM18BF | When students in this class have been taught each of the following mathematics topics. Algebra: Properties of functions (slopes, intercepts, etc.) | See TQM-21 in 2015 for sub-topics | |
| TQM-18Bg | BTBM18BG | When students in this class have been taught each of the following mathematics topics. Algebra: Numeric, algebraic, and geometric patterns or sequences (extension, missing terms, generalization of patterns) | See TQM-21 in 2015 for sub-topics | |
| TQM-18Ca | BTBM18CA | When students in this class have been taught each of the following mathematics topics. Geometry: Geometric properties of angles, pairs of lines, and geometric shapes (triangles, quadrilaterals, and other common polygons) | See TQM-21 in 2015 for sub-topics | |
| TQM-18Cb | BTBM18CB | When students in this class have been taught each of the following mathematics topics. Geometry: Solving problems involving perimeters, circumferences, and areas | See TQM-21 in 2015 for sub-topics | |
| TQM-18Cc | BTBM18CC | When students in this class have been taught each of the following mathematics topics. Geometry: Solving problems involving the Pythagorean Theorem | See TQM-21 in 2015 for sub-topics | |
| TQM-18Cd | BTBM18CD | When students in this class have been taught each of the following mathematics topics. Geometry: Translation, reflection, and rotation | See TQM-21 in 2015 for sub-topics | |
| TQM-18Ce | BTBM18CE | When students in this class have been taught each of the following mathematics topics. Geometry: Congruent figures and similar triangles | See TQM-21 in 2015 for sub-topics | |
| TQM-18Cf | BTBM18CF | When students in this class have been taught each of the following mathematics topics. Geometry: Solving problems with three-dimensional shapes | See TQM-21 in 2015 for sub-topics | |
| TQM-18Da | BTBM18DA | When students in this class have been taught each of the following mathematics topics. Data and Probability: Reading and interpreting data from one or more sources to solve problems (interpolating, extrapolating, drawing conclusions) | See TQM-21 in 2015 for sub-topics | |
| TQM-18Db | BTBM18DB | When students in this class have been taught each of the following mathematics topics. Data and Probability: Identifying appropriate procedures for collecting data | See TQM-21 in 2015 for sub-topics | |
| TQM-18Dc | BTBM18DC | When students in this class have been taught each of the following mathematics topics. Data and Probability: Organizing and representing data to help answer questions | See TQM-21 in 2015 for sub-topics | |
| TQM-18Dd | BTBM18DD | When students in this class have been taught each of the following mathematics topics. Data and Probability: Calculating and interpreting statistics summarizing data distributions | See TQM-21 in 2015 for sub-topics | |
| TQM-18De | BTBM18DE | When students in this class have been taught each of the following mathematics topics. Data and Probability: Theoretical and empirical probability of simple events | See TQM-21 in 2015 for sub-topics | |

Exhibit 2.4: International Context Variables for the TIMSS 2019 Teacher Questionnaire—Mathematics (Grade 8)

| TIMSS 2019 Question Number | TIMSS 2019 Variable Name | TIMSS 2019 Variable Description | TIMSS 2015 Variable Name | Notes |
|----------------------------|--------------------------|---|-----------------------------------|-------------------------------------|
| TQM-18Df | BTBM18DF | When students in this class have been taught each of the following mathematics topics. Data and Probability: Theoretical and empirical probability of compound events | See TQM-21 in 2015 for sub-topics | |
| TQM-19A | BTBM19A | How often do you usually assign mathematics homework to the students in this class? | BTBM22A | |
| TQM-19B | BTBM19B | When you assign mathematics homework to the students in this class, about how many minutes do you usually assign? | BTBM22B | |
| TQM-19Ca | BTBM19CA | How often do you do the following with the mathematics homework assignments for this class? Correct assignments and give feedback to students | BTBM22CA | |
| TQM-19Cb | BTBM19CB | How often do you do the following with the mathematics homework assignments for this class? Have students correct their own homework | BTBM22CB | |
| TQM-19Cc | BTBM19CC | How often do you do the following with the mathematics homework assignments for this class? Discuss the homework in class | BTBM22CC | |
| TQM-19Cd | BTBM19CD | How often do you do the following with the mathematics homework assignments for this class? Monitor whether or not the homework was completed | BTBM22CD | |
| TQM-19Ce | BTBM19CE | 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 | BTBM22CE | |
| TQM-20a | BTBM20A | How much importance do you place on the following assessment strategies in mathematics? Observing students as they work | | |
| TQM-20b | BTBM20B | How much importance do you place on the following assessment strategies in mathematics? Asking students to answer questions during class | | |
| TQM-20c | BTBM20C | How much importance do you place on the following assessment strategies in mathematics? Short, regular written assessments | | |
| TQM-20d | BTBM20D | How much importance do you place on the following assessment strategies in mathematics? Longer tests (e.g., unit tests or exams) | | |
| TQM-20e | BTBM20E | How much importance do you place on the following assessment strategies in mathematics? Long-term projects | | |
| TQM-21 | BTBM21 | About how often do <eighth grade> students in this class take mathematics tests on computers or tablets? | | |
| TQM-22Aa | BTBM22AA | In the past two years, have you participated in professional development in any of the following? Mathematics content | BTBM24A | Modified format in 2019 |
| TQM-22Ab | BTBM22AB | In the past two years, have you participated in professional development in any of the following? Mathematics pedagogy/instruction | BTBM24B | Modified format in 2019 |
| TQM-22Ac | BTBM22AC | In the past two years, have you participated in professional development in any of the following? Mathematics curriculum | BTBM24C | Modified format in 2019 |
| TQM-22Ad | BTBM22AD | In the past two years, have you participated in professional development in any of the following? Integrating technology into mathematics instruction | BTBM24D | Modified wording and format in 2019 |
| TQM-22Ae | BTBM22AE | In the past two years, have you participated in professional development in any of the following? Improving students' critical thinking or problem solving skills | BTBM24E | Modified format in 2019 |
| TQM-22Af | BTBM22AF | In the past two years, have you participated in professional development in any of the following? Mathematics assessment | BTBM24F | Modified format in 2019 |
| TQM-22Ag | BTBM22AG | In the past two years, have you participated in professional development in any of the following? Addressing individual students' needs | BTBM24G | Modified format in 2019 |

Exhibit 2.4: International Context Variables for the TIMSS 2019 Teacher Questionnaire—Mathematics (Grade 8)

| TIMSS 2019 Question Number | TIMSS 2019 Variable Name | TIMSS 2019 Variable Description | TIMSS 2015 Variable Name | Notes |
|-------------------------------------|-----------------------------------|---|-----------------------------------|-------|
| TQM-22Ba | BTBM22BA | Do you need future professional development in any of the following? Mathematics content | | |
| TQM-22Bb | BTBM22BB | Do you need future professional development in any of the following? Mathematics pedagogy/instruction | | |
| TQM-22Bc | BTBM22BC | Do you need future professional development in any of the following? Mathematics curriculum | | |
| TQM-22Bd | BTBM22BD | Do you need future professional development in any of the following? Integrating technology into mathematics instruction | | |
| TQM-22Be | BTBM22BE | Do you need future professional development in any of the following? Improving students' critical thinking or problem solving skills | | |
| TQM-22Bf | BTBM22BF | Do you need future professional development in any of the following? Mathematics assessment | | |
| TQM-22Bg | BTBM22BG | Do you need future professional development in any of the following? Addressing individual students' needs | | |
| TQM-23 | BTBM23 | In the past two years, how many hours in total have you spent in formal <in-service/professional development> for mathematics? | BTBM25 | |



Identification Label

TRENDS IN INTERNATIONAL MATHEMATICS AND SCIENCE STUDY

Teacher Questionnaire Mathematics

<Grade 8>

<TIMSS National Research Center Name>
<Address>

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TIMSS & PIRLS
International Study Center
Lynch School of Education
BOSTON COLLEGE

Teacher Questionnaire

Your school has agreed to participate in TIMSS 2019 (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 2019

About You

1

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

BTBG01

_____ years
Please round to the nearest whole number.

2

Are you female or male?

BTBG02

Check one circle only.

- Female ---
Male ---

3

How old are you?

BTBG03

Check one circle only.

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

4

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

BTBG04

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> ---

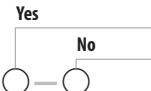
<Master's or equivalent
level—ISCED Level 7> ---

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

5

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

Check one circle for each line.



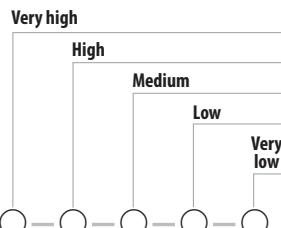
- BTBG05A a) Mathematics ---
BTBG05B b) Biology ---
BTBG05C c) Physics ---
BTBG05D d) Chemistry ---
BTBG05E e) <Earth Science> ---
BTBG05F f) Education—Mathematics ---
BTBG05G g) Education—Science ---
BTBG05H h) Education—General ---
BTBG05I i) Other ---

School Emphasis on Academic Success

6

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

Check **one** circle for each line.



- BTBG06A a) Teachers' understanding of the school's curricular goals -----
- BTBG06B b) Teachers' degree of success in implementing the school's curriculum -----
- BTBG06C c) Teachers' expectations for student achievement -----
- BTBG06D d) Teachers' ability to inspire students -----
- BTBG06E e) Parental involvement in school activities -----
- BTBG06F f) Parental commitment to ensure that students are ready to learn -----
- BTBG06G g) Parental expectations for student achievement -----
- BTBG06H h) Parental support for student achievement -----
- BTBG06I i) Students' desire to do well in school -----
- BTBG06J j) Students' ability to reach school's academic goals -----
- BTBG06K k) Students' respect for classmates who excel academically -----
- BTBG06L l) Collaboration between school leadership (including master teachers) and teachers to plan instruction-----

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 -----

About Being a Teacher

8

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

Check **one** circle for each line.

Very often



- BTBG08A a) I am content with my profession as a teacher -----
- BTBG08B b) I find my work full of meaning and purpose -----
- BTBG08C c) I am enthusiastic about my job -----
- BTBG08D d) My work inspires me -----
- BTBG08E e) I am proud of the work I do -----

9

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

Check **one** circle for each line.

Agree a lot



- BTBG09A a) There are too many students in the classes -----
- BTBG09B b) I have too much material to cover in class -----
- BTBG09C c) I have too many teaching hours -----
- BTBG09D d) I need more time to prepare for class -----
- BTBG09E e) I need more time to assist individual students -----
- BTBG09F f) I feel too much pressure from parents -----
- BTBG09G g) I have difficulty keeping up with all of the changes to the curriculum -----
- BTBG09H h) I have too many administrative tasks -----

About Teaching the TIMSS Class

10

How many students are in this class?

BTBG10

_____ students
Write in the number.

11

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

BTBG11

_____ students in this class
Write in the number.

12

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

BTBG12A a) Relate the lesson to students' daily lives -----

BTBG12B b) Ask students to explain their answers -----

BTBG12C c) Ask students to complete challenging exercises that require them to go beyond the instruction -----

BTBG12D d) Encourage classroom discussions among students -----

BTBG12E e) Link new content to students' prior knowledge ---

BTBG12F f) Ask students to decide their own problem solving procedures -----

BTBG12G g) Encourage students to express their ideas in class ---

13

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

BTBG13A a) Students lacking prerequisite knowledge or skills -----

BTBG13B b) Students suffering from lack of basic nutrition -----

BTBG13C c) Students suffering from not enough sleep -----

BTBG13D d) Students absent from class ----

BTBG13E e) Disruptive students -----

BTBG13F f) Uninterested students -----

BTBG13G g) Students with mental, emotional, or psychological impairment -----

BTBG13H h) Students with difficulties understanding the language of instruction -----

Teaching Mathematics to the TIMSS Class

14

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

BTBM14

_____ minutes per week

Write in the number of minutes per week.

Please convert the number of hours into minutes.

15

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

Check **one** circle for each line.

Every or almost every lesson

About half the lessons

Some lessons

Never

- | | | |
|---------|---|--|
| BTBM15A | a) Listen to me explain new mathematics content ----- | <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> |
| BTBM15B | b) Listen to me explain how to solve problems ----- | <input type="radio"/> <input checked="" type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> |
| BTBM15C | c) Memorize rules, procedures, and facts ----- | <input type="radio"/> <input checked="" type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> |
| BTBM15D | d) Practice procedures on their own ----- | <input type="radio"/> <input checked="" type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> |
| BTBM15E | e) Apply what they have learned to new problem situations on their own ----- | <input type="radio"/> <input checked="" type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> |
| BTBM15F | f) Work problems together in the whole class with direct guidance from me ----- | <input type="radio"/> <input checked="" type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> |
| BTBM15G | g) Work in mixed ability groups -- | <input type="radio"/> <input checked="" type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> |
| BTBM15H | h) Work in same ability groups -- | <input type="radio"/> <input checked="" type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> |

Using Calculators and Computers for Teaching Mathematics to the TIMSS Class

16

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

BTBM16

Check **one** circle only.

Yes, with unrestricted use ---

Yes, with restricted use ---

No, calculators are not permitted ---

17

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

BTBM17A

Check **one** circle only.

Yes ---

No ---

→ (If No, go to #18)

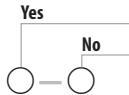
If Yes,

B. What access do the students have to computers?

Check **one** circle for each line.

BTBM17BA

a) Each student has a computer -----



BTBM17BB

b) The class has computers that students can share -----



BTBM17BC

c) The school has computers that the class can use sometimes -----



C. How often do you do activities on computers during mathematics lessons to support learning for:

Check **one** circle for each line.

Every or almost every day

Once or twice a week



BTBM17CA

a) Whole class -----



BTBM17CB

b) Low-performing students -----



BTBM17CC

c) High-performing students -----



BTBM17CD

d) Students with special needs -----



7

<Grade 8> Teacher Questionnaire — Mathematics

Mathematics Topics Taught to the TIMSS Class

18

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.

| Mostly taught before this year | Mostly taught this year | Not yet taught or just introduced |
|--------------------------------|-------------------------|-----------------------------------|
|--------------------------------|-------------------------|-----------------------------------|

A. Number

- BTBM18AA a) Computing with negative numbers -----
 BTBM18AB b) Concepts of fractions and decimals -----
 BTBM18AC c) Solving problems involving proportions and percents -----

B. Algebra

- BTBM18BA a) Simplifying and evaluating algebraic expressions -----
 BTBM18BB b) Simple linear equations -----
 BTBM18BC c) Simple linear inequalities -----
 BTBM18BD d) Simultaneous (two variables) equations -----
 BTBM18BE e) Representation of linear and quadratic functions in tables, graphs, words, or equations -----
 BTBM18BF f) Properties of functions (slopes, intercepts, etc.) -----
 BTBM18BG g) Numeric, algebraic, and geometric patterns or sequences (extension, missing terms, generalization of patterns) -----

C. Geometry

- BTBM18CA a) Geometric properties of angles, pairs of lines, and geometric shapes (triangles, quadrilaterals, and other common polygons) -----
 BTBM18CB b) Solving problems involving perimeters, circumferences, and areas -----
 BTBM18CC c) Solving problems involving the Pythagorean Theorem -----
 BTBM18CD d) Translation, reflection, and rotation -----
 BTBM18CE e) Congruent figures and similar triangles -----
 BTBM18CF f) Solving problems with three-dimensional shapes -----

D. Data and Probability

- BTBM18DA a) Reading and interpreting data from one or more sources to solve problems (interpolating, extrapolating, drawing conclusions) -----
 BTBM18DB b) Identifying appropriate procedures for collecting data -----
 BTBM18DC c) Organizing and representing data to help answer questions -----
 BTBM18DD d) Calculating and interpreting statistics summarizing data distributions -----
 BTBM18DE e) Theoretical and empirical probability of simple events -----
 BTBM18DF f) Theoretical and empirical probability of compound events -----

Mathematics Homework for the TIMSS Class

19

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

BTBM19A

Check one circle only.

| | | |
|--|-----------------------|-------------|
| I do not assign mathematics homework --- | <input type="radio"/> | (Go to #20) |
| Less than once a week --- | <input type="radio"/> | |
| 1 or 2 times a week --- | <input type="radio"/> | |
| 3 or 4 times a week --- | <input type="radio"/> | |
| Every day --- | <input type="radio"/> | |

- 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.)

BTBM19B

Check one circle only.

| | |
|--------------------------|-----------------------|
| 15 minutes or less --- | <input type="radio"/> |
| 16–30 minutes --- | <input type="radio"/> |
| 31–60 minutes --- | <input type="radio"/> |
| 61–90 minutes --- | <input type="radio"/> |
| More than 90 minutes --- | <input type="radio"/> |

- 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

BTBM19CA

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

BTBM19CB

- b) Have students correct their own homework -----

BTBM19CC

- c) Discuss the homework in class -----

BTBM19CD

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

BTBM19CE

- e) Use the homework to contribute towards students' grades or marks -----

Mathematics Assessment of the TIMSS Class

20

- How much importance do you place on the following assessment strategies in mathematics?

Check one circle for each line.

A Lot

Some

None

BTBM20A

- a) Observing students as they work -----

BTBM20B

- b) Asking students to answer questions during class -----

BTBM20C

- c) Short, regular written assessments -----

BTBM20D

- d) Longer tests (e.g., unit tests or exams) -----

BTBM20E

- e) Long-term projects -----

21

- About how often do **<eighth grade>** students in this class take mathematics tests on computers or tablets?

BTBM21

Check one circle only.

More than once a month ---

Once a month ---

Twice a year --

Once a year ---

Never ---

Professional Development to Teach Mathematics

22

- A. In the past two years, have you participated in professional development in any of the following?**
- Check one circle for each line.*
- | | |
|---|---|
| BTBM22AA a) Mathematics content ----- <input type="radio"/> <input checked="" type="radio"/> Yes <input type="radio"/> No | BTBM22BA b) Mathematics pedagogy/instruction ----- <input type="radio"/> <input checked="" type="radio"/> Yes <input type="radio"/> No |
| BTBM22AC c) Mathematics curriculum ----- <input type="radio"/> <input checked="" type="radio"/> Yes <input type="radio"/> No | BTBM22BC d) Integrating technology into mathematics instruction ----- <input type="radio"/> <input checked="" type="radio"/> Yes <input type="radio"/> No |
| BTBM22AD e) Improving students' critical thinking or problem solving skills ----- <input type="radio"/> <input checked="" type="radio"/> Yes <input type="radio"/> No | BTBM22BE f) Mathematics assessment ----- <input type="radio"/> <input checked="" type="radio"/> Yes <input type="radio"/> No |
| BTBM22AF g) Addressing individual students' needs ----- <input type="radio"/> <input checked="" type="radio"/> Yes <input type="radio"/> No | BTBM22BF |

- B. Do you need future professional development in any of the following?**
- Check one circle for each line.*
- | | |
|---|--|
| BTBM22BA b) Mathematics pedagogy/instruction ----- <input type="radio"/> <input checked="" type="radio"/> Yes <input type="radio"/> No | BTBM22BB c) Mathematics curriculum ----- <input type="radio"/> <input checked="" type="radio"/> Yes <input type="radio"/> No |
| BTBM22BD d) Integrating technology into mathematics instruction ----- <input type="radio"/> <input checked="" type="radio"/> Yes <input type="radio"/> No | BTBM22BC |

23

- 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 ---

Thank You

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



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<Grade 8>



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International Association
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SECTION 2.5: TEACHER QUESTIONNAIRE— SCIENCE GRADE 8

TIMSS 2019 USER GUIDE FOR THE
INTERNATIONAL DATABASE



TIMSS & PIRLS
International Study Center
Lynch School of Education
BOSTON COLLEGE

Exhibit 2.5: International Context Variables for the TIMSS 2019 Teacher Questionnaire—Science (Grade 8)

| TIMSS 2019 Question Number | TIMSS 2019 Variable Name | TIMSS 2019 Variable Description | TIMSS 2015 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 | |
| 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 | BTBG06A | |
| TQG-06b | BTBG06B | How would you characterize each of the following within your school? Teachers' degree of success in implementing the school's curriculum | BTBG06B | |
| TQG-06c | BTBG06C | How would you characterize each of the following within your school? Teachers' expectations for student achievement | BTBG06C | |
| TQG-06d | BTBG06D | How would you characterize each of the following within your school? Teachers' ability to inspire students | BTBG06E | |
| TQG-06e | BTBG06E | How would you characterize each of the following within your school? Parental involvement in school activities | BTBG06F | |
| TQG-06f | BTBG06F | How would you characterize each of the following within your school? Parental commitment to ensure that students are ready to learn | BTBG06G | |
| TQG-06g | BTBG06G | How would you characterize each of the following within your school? Parental expectations for student achievement | BTBG06H | |
| TQG-06h | BTBG06H | How would you characterize each of the following within your school? Parental support for student achievement | BTBG06I | |
| TQG-06i | BTBG06I | How would you characterize each of the following within your school? Students' desire to do well in school | BTBG06K | |
| TQG-06j | BTBG06J | How would you characterize each of the following within your school? Students' ability to reach school's academic goals | BTBG06L | |
| TQG-06k | BTBG06K | How would you characterize each of the following within your school? Students' respect for classmates who excel academically | BTBG06M | Modified wording in 2019 |
| TQG-06l | BTBG06L | How would you characterize each of the following within your school? Collaboration between school leadership (including master teachers) and teachers to plan instruction | BTBG06O | Modified wording in 2019 |

Exhibit 2.5: International Context Variables for the TIMSS 2019 Teacher Questionnaire—Science (Grade 8)

| TIMSS 2019 Question Number | TIMSS 2019 Variable Name | TIMSS 2019 Variable Description | TIMSS 2015 Variable Name | Notes |
|---|---|--|---|--------------|
| 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 | BTBG07F | |
| 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 | BTBG07G | |
| 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 | BTBG07H | |
| TQG-08a | BTBG08A | How often do you feel the following way about being a teacher? I am content with my profession as a teacher | BTBG10A | |
| TQG-08b | BTBG08B | How often do you feel the following way about being a teacher? I find my work full of meaning and purpose | BTBG10C | |
| TQG-08c | BTBG08C | How often do you feel the following way about being a teacher? I am enthusiastic about my job | BTBG10D | |
| TQG-08d | BTBG08D | How often do you feel the following way about being a teacher? My work inspires me | BTBG10E | |
| TQG-08e | BTBG08E | How often do you feel the following way about being a teacher? I am proud of the work I do | BTBG10F | |
| TQG-09a | BTBG09A | Indicate the extent to which you agree or disagree with each of the following statements. There are too many students in the classes | BTBG11A | |
| TQG-09b | BTBG09B | Indicate the extent to which you agree or disagree with each of the following statements. I have too much material to cover in class | BTBG11B | |
| TQG-09c | BTBG09C | Indicate the extent to which you agree or disagree with each of the following statements. I have too many teaching hours | BTBG11C | |
| TQG-09d | BTBG09D | Indicate the extent to which you agree or disagree with each of the following statements. I need more time to prepare for class | BTBG11D | |
| TQG-09e | BTBG09E | Indicate the extent to which you agree or disagree with each of the following statements. I need more time to assist individual students | BTBG11E | |
| TQG-09f | BTBG09F | Indicate the extent to which you agree or disagree with each of the following statements. I feel too much pressure from parents | BTBG11F | |
| TQG-09g | BTBG09G | 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 | BTBG11G | |

Exhibit 2.5: International Context Variables for the TIMSS 2019 Teacher Questionnaire—Science (Grade 8)

| TIMSS 2019 Question Number | TIMSS 2019 Variable Name | TIMSS 2019 Variable Description | TIMSS 2015 Variable Name | Notes |
|---|---|---|---|--------------------------|
| TQG-09h | BTBG09H | Indicate the extent to which you agree or disagree with each of the following statements. I have too many administrative tasks | BTBG11H | |
| TQG-10 | BTBG10 | How many students are in this class? | BTBG12 | |
| TQG-11 | BTBG11 | How many <eighth grade> students experience difficulties understanding spoken <language of test>? | BTBG13 | |
| TQG-12a | BTBG12A | How often do you do the following in teaching this class? Relate the lesson to students' daily lives | BTBG14A | |
| TQG-12b | BTBG12B | How often do you do the following in teaching this class? Ask students to explain their answers | BTBG14B | |
| TQG-12c | BTBG12C | 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 | BTBG14C | |
| TQG-12d | BTBG12D | How often do you do the following in teaching this class? Encourage classroom discussions among students | BTBG14D | |
| TQG-12e | BTBG12E | How often do you do the following in teaching this class? Link new content to students' prior knowledge | BTBG14E | |
| TQG-12f | BTBG12F | How often do you do the following in teaching this class? Ask students to decide their own problem solving procedures | BTBG14F | |
| TQG-12g | BTBG12G | How often do you do the following in teaching this class? Encourage students to express their ideas in class | BTBG14G | |
| TQG-13a | BTBG13A | In your view, to what extent do the following limit how you teach this class? Students lacking prerequisite knowledge or skills | BTBG15A | |
| TQG-13b | BTBG13B | In your view, to what extent do the following limit how you teach this class? Students suffering from lack of basic nutrition | BTBG15B | |
| TQG-13c | BTBG13C | In your view, to what extent do the following limit how you teach this class? Students suffering from not enough sleep | BTBG15C | |
| TQG-13d | BTBG13D | In your view, to what extent do the following limit how you teach this class? Students absent from class | | |
| TQG-13e | BTBG13E | In your view, to what extent do the following limit how you teach this class? Disruptive students | BTBG15D | |
| TQG-13f | BTBG13F | In your view, to what extent do the following limit how you teach this class? Uninterested students | BTBG15E | |
| TQG-13g | BTBG13G | In your view, to what extent do the following limit how you teach this class? Students with mental, emotional, or psychological impairment | BTBG15G | Modified wording in 2019 |
| TQG-13h | BTBG13H | In your view, to what extent do the following limit how you teach this class? Students with difficulties understanding the language of instruction | | |
| TQS-14 | BTBS14 | In a typical week, how much time do you spend teaching science to the students in this class? (minutes) | BTBS16 | |
| TQS-15a | BTBS15A | 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 | BTBS18A | |
| TQS-15b | BTBS15B | 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 | BTBS18B | |
| TQS-15c | BTBS15C | 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 | BTBS18C | |
| TQS-15d | BTBS15D | 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 | BTBS18D | |

Exhibit 2.5: International Context Variables for the TIMSS 2019 Teacher Questionnaire—Science (Grade 8)

| TIMSS 2019 Question Number | TIMSS 2019 Variable Name | TIMSS 2019 Variable Description | TIMSS 2015 Variable Name | Notes |
|---|---|---|---|--------------|
| TQS-15e | BTBS15E | In teaching science to the students in this class, how often do you ask them to do the following? Conduct experiments or investigations | BTBS18E | |
| TQS-15f | BTBS15F | 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 | BTBS18F | |
| TQS-15g | BTBS15G | 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 | BTBS18G | |
| TQS-15h | BTBS15H | 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 | BTBS18H | |
| TQS-15i | BTBS15I | 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 | BTBS18I | |
| TQS-15j | BTBS15J | 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 | BTBS18J | |
| TQS-15k | BTBS15K | 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 | BTBS18K | |
| TQS-15l | BTBS15L | 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 | BTBS18L | |
| TQS-15m | BTBS15M | In teaching science to the students in this class, how often do you ask them to do the following? Work in mixed ability groups | BTBS18N | |
| TQS-15n | BTBS15N | In teaching science to the students in this class, how often do you ask them to do the following? Work in same ability groups | BTBS18O | |
| TQS-16A | BTBS16A | Do the students in this class have computers (including tablets) available to use during their science lessons? | BTBS19A | |
| TQS-16Ba | BTBS16BA | What access do the students have to computers? Each student has a computer | BTBS19BA | |
| TQS-16Bb | BTBS16BB | What access do the students have to computers? The class has computers that students can share | BTBS19BB | |
| TQS-16Bc | BTBS16BC | What access do the students have to computers? The school has computers that the class can use sometimes | BTBS19BC | |
| TQS-16Ca | BTBS16CA | How often do you do activities on computers during science lessons to support learning for: Whole class | | |
| TQS-16Cb | BTBS16CB | How often do you do activities on computers during science lessons to support learning for: Low-performing students | | |
| TQS-16Cc | BTBS16CC | How often do you do activities on computers during science lessons to support learning for: High-performing students | | |
| TQS-16Cd | BTBS16CD | How often do you do activities on computers during science lessons to support learning for: Students with special needs | | |
| TQS-17Aa | BTBS17AA | When students in this class have been taught each of the following science topics. Biology: Differences among major taxonomic groups of organisms (plants, animals, fungi, mammals, birds, reptiles, fish, amphibians, insects) | See TQM-20 in 2015 for sub-topics | |
| TQS-17Ab | BTBS17AB | 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 (structure/function, life processes) | See TQM-20 in 2015 for sub-topics | |
| TQS-17Ac | BTBS17AC | 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 TQM-20 in 2015 for sub-topics | |

Exhibit 2.5: International Context Variables for the TIMSS 2019 Teacher Questionnaire—Science (Grade 8)

| TIMSS 2019 Question Number | TIMSS 2019 Variable Name | TIMSS 2019 Variable Description | TIMSS 2015 Variable Name | Notes |
|----------------------------|--------------------------|---|-----------------------------------|-------|
| TQS-17Ad | BTBS17AD | When students in this class have been taught each of the following science topics. Biology: Life cycles, sexual reproduction, and heredity (inherited versus acquired/learned characteristics) | See TQM-20 in 2015 for sub-topics | |
| TQS-17Ae | BTBS17AE | 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 (including fossil evidence) | See TQM-20 in 2015 for sub-topics | |
| TQS-17Af | BTBS17AF | When students in this class have been taught each of the following science topics. Biology: Interdependence of populations of organisms in an ecosystem (e.g., carbon and water cycles, energy flow, food webs, competition, predation, human impacts on ecosystems) | See TQM-20 in 2015 for sub-topics | |
| TQS-17Ag | BTBS17AG | When students in this class have been taught each of the following science topics. Biology: Human health (e.g., causes, transmission, and prevention of common infectious diseases, immunity) and the importance of diet, exercise, and other lifestyle choices in maintaining health | See TQM-20 in 2015 for sub-topics | |
| TQS-17Ba | BTBS17BA | When students in this class have been taught each of the following science topics. Chemistry: Particulate structure, classification, and composition of matter (protons, neutrons, electrons, atoms, molecules, elements, compounds, mixtures) | See TQM-20 in 2015 for sub-topics | |
| TQS-17Bb | BTBS17BB | When students in this class have been taught each of the following science topics. Chemistry: The periodic table as an organizing principle for the known elements | See TQM-20 in 2015 for sub-topics | |
| TQS-17Bc | BTBS17BC | When students in this class have been taught each of the following science topics. Chemistry: Physical and chemical properties of matter | See TQM-20 in 2015 for sub-topics | |
| TQS-17Bd | BTBS17BD | When students in this class have been taught each of the following science topics. Chemistry: Mixtures and solutions (e.g., solvent, solute, concentration/dilution) | See TQM-20 in 2015 for sub-topics | |
| TQS-17Be | BTBS17BE | When students in this class have been taught each of the following science topics. Chemistry: Properties of common acids and bases (e.g., acids have pH less than 7, reactions with indicators produce color changes, acids and bases neutralize each other) | See TQM-20 in 2015 for sub-topics | |
| TQS-17Bf | BTBS17BF | When students in this class have been taught each of the following science topics. Chemistry: Characteristics of chemical reactions (e.g., transformation of reactants, evidence of chemical change) | See TQM-20 in 2015 for sub-topics | |
| TQS-17Bg | BTBS17BG | When students in this class have been taught each of the following science topics. Chemistry: Matter and energy in chemical reactions (conservation of matter, familiar exothermic and endothermic reactions, factors affecting reaction rates) | See TQM-20 in 2015 for sub-topics | |
| TQS-17Bh | BTBS17BH | When students in this class have been taught each of the following science topics. Chemistry: The role of electrons in chemical bonds | See TQM-20 in 2015 for sub-topics | |
| TQS-17Ca | BTBS17CA | When students in this class have been taught each of the following science topics. Physics: Physical states and changes in matter (explanations of properties in terms of movement and distance between particles; phase change, changes in volume and/or pressure, physical changes) | See TQM-20 in 2015 for sub-topics | |
| TQS-17Cb | BTBS17CB | When students in this class have been taught each of the following science topics. Physics: Energy transformation and transfer (e.g., forms of energy, energy conservation, heat temperature, equilibrium) | See TQM-20 in 2015 for sub-topics | |

Exhibit 2.5: International Context Variables for the TIMSS 2019 Teacher Questionnaire—Science (Grade 8)

| TIMSS 2019 Question Number | TIMSS 2019 Variable Name | TIMSS 2019 Variable Description | TIMSS 2015 Variable Name | Notes |
|----------------------------|--------------------------|--|-----------------------------------|-------|
| TQS-17Cc | BTBS17CC | When students in this class have been taught each of the following science topics. Physics: Basic properties/behaviors of light (reflection, refraction, color, shadows, simple ray diagrams) | See TQM-20 in 2015 for sub-topics | |
| TQS-17Cd | BTBS17CD | When students in this class have been taught each of the following science topics. Physics: Basic properties/behaviors of sound (vibrations that produce sound, transmission through media, loudness, pitch) | See TQM-20 in 2015 for sub-topics | |
| TQS-17Ce | BTBS17CE | When students in this class have been taught each of the following science topics. Physics: Electric circuits (e.g., electrical conductors/insulators and the flow of electricity in series/parallel circuits) | See TQM-20 in 2015 for sub-topics | |
| TQS-17Cf | BTBS17CF | When students in this class have been taught each of the following science topics. Physics: Properties and uses of permanent magnets and electromagnets | See TQM-20 in 2015 for sub-topics | |
| TQS-17Cg | BTBS17CG | When students in this class have been taught each of the following science topics. Physics: Motion and forces (e.g., basic description of motion, common mechanical forces, properties of forces, effects of forces, simple machines, buoyancy, effects of density and pressure) | See TQM-20 in 2015 for sub-topics | |
| TQS-17Da | BTBS17DA | When students in this class have been taught each of the following science topics. Earth Science: Earth's structure and physical features (e.g., Earth's crust, mantle, and core; composition and relative distribution of water; composition of Earth's atmosphere) | See TQM-20 in 2015 for sub-topics | |
| TQS-17Db | BTBS17DB | When students in this class have been taught each of the following science topics. Earth Science: Earth's processes, cycles, and history (e.g., rock cycle, major geological events, formation of fossils and fossil fuels, water cycle, weather versus climate) | See TQM-20 in 2015 for sub-topics | |
| TQS-17Dc | BTBS17DC | When students in this class have been taught each of the following science topics. Earth Science: Earth's resources, their use, and conservation (e.g., renewable/nonrenewable resources, human use of land and water resources) | See TQM-20 in 2015 for sub-topics | |
| TQS-17Dd | BTBS17DD | When students in this class have been taught each of the following science topics. Earth Science: Earth in the Solar System and the universe (phenomena on Earth: seasons, eclipses, tides, phases of moon; members of the Solar System; physical features of Earth) | See TQM-20 in 2015 for sub-topics | |
| TQS-18A | BTBS18A | How often do you usually assign science homework to the students in this class? | BTBS21A | |
| TQS-18B | BTBS18B | 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.) | BTBS21B | |
| TQS-18Ca | BTBS18CA | How often do you do the following with the science homework assignments for this class? Correct assignments and give feedback to students | BTBS21CA | |
| TQS-18Cb | BTBS18CB | How often do you do the following with the science homework assignments for this class? Have students correct their own homework | BTBS21CB | |
| TQS-18Cc | BTBS18CC | How often do you do the following with the science homework assignments for this class? Discuss the homework in class | BTBS21CC | |
| TQS-18Cd | BTBS18CD | How often do you do the following with the science homework assignments for this class? Monitor whether or not the homework was completed | BTBS21CD | |
| TQS-18Ce | BTBS18CE | 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 | BTBS21CE | |

Exhibit 2.5: International Context Variables for the TIMSS 2019 Teacher Questionnaire—Science (Grade 8)

| TIMSS 2019 Question Number | TIMSS 2019 Variable Name | TIMSS 2019 Variable Description | TIMSS 2015 Variable Name | Notes |
|---|---|---|---|-------------------------------------|
| TQS-19a | BTBS19A | How much importance do you place on the following assessment strategies in science? Observing students as they work | | |
| TQS-19b | BTBS19B | How much importance do you place on the following assessment strategies in science? Asking students to answer questions during class | | |
| TQS-19c | BTBS19C | How much importance do you place on the following assessment strategies in science? Short, regular written assessments | | |
| TQS-19d | BTBS19D | How much importance do you place on the following assessment strategies in science? Longer tests (e.g., unit tests or exams) | | |
| TQS-19e | BTBS19E | How much importance do you place on the following assessment strategies in science? Long-term projects | | |
| TQS-20 | BTBS20 | About how often do <eighth grade> students in this class take science tests on computers or tablets? | | |
| TQS-21Aa | BTBS21AA | In the past two years, have you participated in professional development in any of the following? Science content | BTBS23A | Modified format in 2019 |
| TQS-21Ab | BTBS21AB | In the past two years, have you participated in professional development in any of the following? Science pedagogy/instruction | BTBS23B | Modified format in 2019 |
| TQS-21Ac | BTBS21AC | In the past two years, have you participated in professional development in any of the following? Science curriculum | BTBS23C | Modified format in 2019 |
| TQS-21Ad | BTBS21AD | In the past two years, have you participated in professional development in any of the following? Integrating technology into science instruction | BTBS23D | Modified wording and format in 2019 |
| TQS-21Ae | BTBS21AE | In the past two years, have you participated in professional development in any of the following? Improving students' critical thinking or inquiry skills | BTBS23E | Modified format in 2019 |
| TQS-21Af | BTBS21AF | In the past two years, have you participated in professional development in any of the following? Science assessment | BTBS23F | Modified format in 2019 |
| TQS-21Ag | BTBS21AG | In the past two years, have you participated in professional development in any of the following? Addressing individual students' needs | BTBS23G | Modified format in 2019 |
| TQS-21Ba | BTBS21BA | Do you need future professional development in any of the following? Science content | | |
| TQS-21Bb | BTBS21BB | Do you need future professional development in any of the following? Science pedagogy/instruction | | |
| TQS-21Bc | BTBS21BC | Do you need future professional development in any of the following? Science curriculum | | |
| TQS-21Bd | BTBS21BD | Do you need future professional development in any of the following? Integrating technology into science instruction | | |
| TQS-21Be | BTBS21BE | Do you need future professional development in any of the following? Improving students' critical thinking or inquiry skills | | |
| TQS-21Bf | BTBS21BF | Do you need future professional development in any of the following? Science assessment | | |
| TQS-21Bg | BTBS21BG | Do you need future professional development in any of the following? Addressing individual students' needs | | |
| TQS-22 | BTBS22 | In the past two years, how many hours in total have you spent in formal <in-service/professional development> for science? | BTBS24 | |



Identification Label

TRENDS IN INTERNATIONAL MATHEMATICS AND SCIENCE STUDY

Teacher Questionnaire Science

<Grade 8>

<TIMSS National Research Center Name>
<Address>

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TIMSS & PIRLS
International Study Center
Lynch School of Education
BOSTON COLLEGE

Teacher Questionnaire

Your school has agreed to participate in TIMSS 2019 (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 2019

About You

1

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

BTBG01

_____ years
Please round to the nearest whole number.

2

Are you female or male?

BTBG02

Check one circle only.

- Female ---
Male ---

3

How old are you?

BTBG03

Check one circle only.

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

4

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

BTBG04

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

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

Check one circle for each line.

Yes _____ No _____

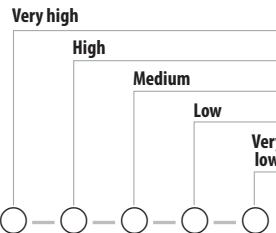
- | | | | | |
|---------|--------------------------|-----|-----------------------|-----------------------|
| BTBG05A | a) Mathematics | --- | <input type="radio"/> | <input type="radio"/> |
| BTBG05B | b) Biology | --- | <input type="radio"/> | <input type="radio"/> |
| BTBG05C | c) Physics | --- | <input type="radio"/> | <input type="radio"/> |
| BTBG05D | d) Chemistry | --- | <input type="radio"/> | <input type="radio"/> |
| BTBG05E | e) <Earth Science> | --- | <input type="radio"/> | <input type="radio"/> |
| BTBG05F | f) Education—Mathematics | --- | <input type="radio"/> | <input type="radio"/> |
| BTBG05G | g) Education—Science | --- | <input type="radio"/> | <input type="radio"/> |
| BTBG05H | h) Education—General | --- | <input type="radio"/> | <input type="radio"/> |
| BTBG05I | i) Other | --- | <input type="radio"/> | <input type="radio"/> |

School Emphasis on Academic Success

6

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

Check **one** circle for each line.



- BTBG06A a) Teachers' understanding of the school's curricular goals -----
- BTBG06B b) Teachers' degree of success in implementing the school's curriculum -----
- BTBG06C c) Teachers' expectations for student achievement -----
- BTBG06D d) Teachers' ability to inspire students -----
- BTBG06E e) Parental involvement in school activities -----
- BTBG06F f) Parental commitment to ensure that students are ready to learn -----
- BTBG06G g) Parental expectations for student achievement -----
- BTBG06H h) Parental support for student achievement -----
- BTBG06I i) Students' desire to do well in school -----
- BTBG06J j) Students' ability to reach school's academic goals -----
- BTBG06K k) Students' respect for classmates who excel academically -----
- BTBG06L l) Collaboration between school leadership (including master teachers) and teachers to plan instruction-----

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 -----

About Being a Teacher

8

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

Check **one** circle for each line.

Very often

Often

Sometimes

Never or almost never

- BTBG08A a) I am content with my profession as a teacher -----
- BTBG08B b) I find my work full of meaning and purpose -----
- BTBG08C c) I am enthusiastic about my job -----
- BTBG08D d) My work inspires me -----
- BTBG08E e) I am proud of the work I do -----

9

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

Check **one** circle for each line.

Agree a lot

Agree a little

Disagree a little

Disagree a lot

- BTBG09A a) There are too many students in the classes -----
- BTBG09B b) I have too much material to cover in class -----
- BTBG09C c) I have too many teaching hours -----
- BTBG09D d) I need more time to prepare for class -----
- BTBG09E e) I need more time to assist individual students -----
- BTBG09F f) I feel too much pressure from parents -----
- BTBG09G g) I have difficulty keeping up with all of the changes to the curriculum -----
- BTBG09H h) I have too many administrative tasks -----

About Teaching the <TIMSS Class/Class with the TIMSS students>

10

How many students are in this class?

BTBG10

_____ students
Write in the number.

11

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

BTBG11

_____ students in this class
Write in the number.

12

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

BTBG12A a) Relate the lesson to students' daily lives -----

BTBG12B b) Ask students to explain their answers -----

BTBG12C c) Ask students to complete challenging exercises that require them to go beyond the instruction -----

BTBG12D d) Encourage classroom discussions among students -----

BTBG12E e) Link new content to students' prior knowledge ----

BTBG12F f) Ask students to decide their own problem solving procedures -----

BTBG12G g) Encourage students to express their ideas in class ----

13

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

- BTBG13A a) Students lacking prerequisite knowledge or skills -----
- BTBG13B b) Students suffering from lack of basic nutrition -----
- BTBG13C c) Students suffering from not enough sleep -----
- BTBG13D d) Students absent from class ----
- BTBG13E e) Disruptive students -----
- BTBG13F f) Uninterested students -----
- BTBG13G g) Students with mental, emotional, or psychological impairment -----
- BTBG13H h) Students with difficulties understanding the language of instruction -----

Teaching Science to the <TIMSS Class/Class with the TIMSS students>

14

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

BTBS14

_____ minutes per week

Write in the number of minutes per week.

Please convert the number of hours into minutes.

15

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.

Every or almost every lesson

About half the lessons

Some lessons

Never

- BTBS15A a) Listen to me explain new science content -----
- BTBS15B b) Observe natural phenomena and describe what they see ---
- BTBS15C c) Watch me demonstrate an experiment or investigation -----
- BTBS15D d) Design or plan experiments or investigations -----
- BTBS15E e) Conduct experiments or investigations -----
- BTBS15F f) Present data from experiments or investigations -----
- BTBS15G g) Interpret data from experiments or investigations -----
- BTBS15H h) Use evidence from experiments or investigations to support conclusions -----
- BTBS15I i) Read their textbooks or other resource materials -----
- BTBS15J j) Have students memorize facts and principles -----
- BTBS15K k) Use scientific formulas and laws to solve routine problems -----
- BTBS15L l) Do field work outside of class--
- BTBS15M m) Work in mixed ability groups --
- BTBS15N n) Work in same ability groups ---

Using Computers for Teaching Science to the <TIMSS Class/Class with the TIMSS students>

16

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

BTBS16A

Check one circle only.

- Yes ---
- No --- →
(If No, go to #17)

If Yes,

- B. What access do the students have to computers?**

Check one circle for each line.

- | | |
|--|--|
| BTBS16BA a) Each student has a computer ----- BTBS16BB b) The class has computers that students can share ----- BTBS16BC c) The school has computers that the class can use sometimes ----- | |
|--|--|

- C. How often do you do activities on computers during science lessons to support learning for:**

Check one circle for each line.

- | | |
|---|--|
| BTBS16CA a) Whole class ----- BTBS16CB b) Low-performing students ----- BTBS16CC c) High-performing students ----- BTBS16CD d) Students with special needs ----- | |
|---|--|

Science Topics Taught to the <TIMSS Class/Class with the TIMSS students>

17

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.



A. Biology

- BTBS17AA a) Differences among major taxonomic groups of organisms (plants, animals, fungi, mammals, birds, reptiles, fish, amphibians, insects) -----
- BTBS17AB b) Major organs and organ systems in humans and other organisms (structure/function, life processes)-----
- BTBS17AC c) Cells, their structure and functions, including respiration and photosynthesis as cellular processes-----
- BTBS17AD d) Life cycles, sexual reproduction, and heredity (inherited versus acquired/learned characteristics) -----
- BTBS17AE e) Role of variation and adaptation in survival/extinction of species (including fossil evidence) -----
- BTBS17AF f) Interdependence of populations of organisms in an ecosystem (e.g., carbon and water cycles, energy flow, food webs, competition, predation, human impacts on ecosystems) -----
- BTBS17AG g) Human health (e.g., causes, transmission, and prevention of common infectious diseases, immunity) and the importance of diet, exercise, and other lifestyle choices in maintaining health -----

B. Chemistry

- BTBS17BA a) Particulate structure, classification, and composition of matter (protons, neutrons, electrons, atoms, molecules, elements, compounds, mixtures) -----
- BTBS17BB b) The periodic table as an organizing principle for the known elements-----
- BTBS17BC c) Physical and chemical properties of matter-----
- BTBS17BD d) Mixtures and solutions (e.g., solvent, solute, concentration/dilution) -----
- BTBS17BE e) Properties of common acids and bases (e.g., acids have pH less than 7, reactions with indicators produce color changes, acids and bases neutralize each other)-----
- BTBS17BF f) Characteristics of chemical reactions (e.g., transformation of reactants, evidence of chemical change) -----
- BTBS17BG g) Matter and energy in chemical reactions (conservation of matter, familiar exothermic and endothermic reactions, factors affecting reaction rates) -----
- BTBS17BH h) The role of electrons in chemical bonds -----

17 (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

- BTBS17CA a) Physical states and changes in matter (explanations of properties in terms of movement and distance between particles; phase change, changes in volume and/or pressure, physical changes) -----
- BTBS17CB b) Energy transformation and transfer (e.g., forms of energy, energy conservation, heat, temperature, equilibrium) -----
- BTBS17CC c) Basic properties/behaviors of light (reflection, refraction, color, shadows, simple ray diagrams) -----
- BTBS17CD d) Basic properties/behaviors of sound (vibrations that produce sound, transmission through media, loudness, pitch) -----
- BTBS17CE e) Electric circuits (e.g., electrical conductors/insulators and the flow of electricity in series/parallel circuits) -----
- BTBS17CF f) Properties and uses of permanent magnets and electromagnets -----
- BTBS17CG g) Motion and forces (e.g., basic description of motion, common mechanical forces, properties of forces, effects of forces, simple machines, buoyancy, effects of density and pressure) -----

D. Earth Science

- BTBS17DA a) Earth's structure and physical features (e.g., Earth's crust, mantle, and core; composition and relative distribution of water; composition of Earth's atmosphere) -----
- BTBS17DB b) Earth's processes, cycles, and history (e.g., rock cycle, major geological events, formation of fossils and fossil fuels, water cycle, weather versus climate) -----
- BTBS17DC c) Earth's resources, their use, and conservation (e.g., renewable/nonrenewable resources, human use of land and water resources) -----
- BTBS17DD d) Earth in the Solar System and the universe (phenomena on Earth: seasons, eclipses, tides, phases of moon; members of the Solar System; physical features of Earth) -----

**Science Homework for the
<TIMSS Class/Class with the
TIMSS students>**

18

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

BTBS18A

Check one circle only.

- I do not assign science homework --- 
 (Go to #19)
- Less than once a week ---
- 1 or 2 times a week ---
- 3 or 4 times a week ---
- Every day ---

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.)

BTBS18B

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

BTBS18CA

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

BTBS18CB

- b) Have students correct their own homework -----

BTBS18CC

- c) Discuss the homework in class -----

BTBS18CD

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

BTBS18CE

- e) Use the homework to contribute towards students' grades or marks -----

**Science Assessment of the
<TIMSS Class/Class with the
TIMSS students>**

19

How much importance do you place on the following assessment strategies in science?

Check one circle for each line.

A Lot

Some

None

BTBS19A

- a) Observing students as they work -----

BTBS19B

- b) Asking students to answer questions during class -----

BTBS19C

- c) Short, regular written assessments -----

BTBS19D

- d) Longer tests (e.g., unit tests or exams) -----

BTBS19E

- e) Long-term projects -----

20

About how often do <eighth grade> students in this class take science tests on computers or tablets?

BTBS20

Check one circle only.

More than once a month ---

Once a month ---

Twice a year --

Once a year ---

Never ---

Professional Development to Teach Science

21

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

Check **one** circle for each line.

- | | |
|---|---|
| BTBS21AA a) Science content ----- BTBS21AB b) Science pedagogy/instruction----- BTBS21AC c) Science curriculum----- BTBS21AD d) Integrating technology into science instruction --- BTBS21AE e) Improving students' critical thinking or inquiry skills----- BTBS21AF f) Science assessment ----- BTBS21AG g) Addressing individual students' needs----- | <div style="display: flex; align-items: center;"> Yes <input type="radio"/> No <input type="radio"/> </div> <div style="display: flex; align-items: center;"> Yes <input type="radio"/> No <input type="radio"/> </div> |
| | BTBS21BA BTBS21BB BTBS21BC BTBS21BD BTBS21BE BTBS21BF BTBS21BG |

B. Do you need future professional development in any of the following?

Check **one** circle for each line.

22

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?

BTBS22

Check **one** circle only.

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

Thank You

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



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<Grade 8>



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SECTION 2.6: SCHOOL QUESTIONNAIRE GRADE 8

TIMSS 2019 USER GUIDE FOR THE
INTERNATIONAL DATABASE



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Exhibit 2.6: International Context Variables for the TIMSS 2019 School Questionnaire (Grade 8)

| TIMSS 2019 Question Number | TIMSS 2019 Variable Name | TIMSS 2019 Variable Description | TIMSS 2015 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, 2019>? | 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, 2019>? | 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 | |
| ScQ-05B | BCBG05B | Which best describes the immediate area in which your school is located? | BCBG05B | |
| ScQ-06A | BCBG06A | For the <eighth grade> students in your school: How many days per year is your school open for instruction? | BCBG07A | |
| ScQ-06B | BCBG06B | For the <eighth grade> students in your school: What is the total instructional time, excluding breaks, in a typical day? (minutes) | BCBG07B | |
| ScQ-06C | BCBG06C | For the <eighth grade> students in your school: In one calendar week, how many days is the school open for instruction? | BCBG07C | |
| ScQ-07 | BCBG07 | How many computers (including tablets) does your school have for use by <eighth grade> students? | BCBG10 | |
| ScQ-08A | BCBG08A | Does your school have a science laboratory that can be used by <eighth grade> students? | BCBG11A | |
| ScQ-08B | BCBG08B | Do teachers usually have assistance available when students are conducting science experiments? | BCBG11B | |
| ScQ-09 | BCBG09 | Does your school use an online learning management system to support learning (e.g., teacher-student communication, management of grades, student access to course materials)? | | |
| ScQ-10A | BCBG10A | Does your school have a school library? | BCBG12 | |
| ScQ-10B | BCBG10B | Approximately how many books (print) with different titles does your school library have (exclude magazines and periodicals)? | BCBG12AA | Modified wording and response options in 2019 |
| ScQ-11 | BCBG11 | Does your school have classroom libraries? | | |
| ScQ-12 | BCBG12 | Does your school provide students access to digital learning resources (e.g., books, videos)? | | |
| 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 | BCBG13AA | |
| 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 | BCBG13AB | |
| 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 | BCBG13AC | |
| 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 | BCBG13AD | |

Exhibit 2.6: International Context Variables for the TIMSS 2019 School Questionnaire (Grade 8)

| TIMSS 2019 Question Number | TIMSS 2019 Variable Name | TIMSS 2019 Variable Description | TIMSS 2015 Variable Name | Notes |
|---|---|--|---|--------------|
| 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 | BCBG13AE | |
| 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 | BCBG13AF | |
| 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 | BCBG13AG | |
| 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 | BCBG13AH | |
| 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 | BCBG13AI | |
| 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 | BCBG13BA | |
| 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 for mathematics instruction | BCBG13BB | |
| 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 | BCBG13BC | |
| 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 | BCBG13BD | |
| 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 | BCBG13BE | |
| 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 | BCBG13CA | |
| 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 | BCBG13CB | |
| 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 | BCBG13CC | |
| 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 | BCBG13CD | |
| 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 | BCBG13CE | |
| ScQ-14a | BCBG14A | How would you characterize each of the following within your school? Teachers' understanding of the school's curricular goals | BCBG14A | |

Exhibit 2.6: International Context Variables for the TIMSS 2019 School Questionnaire (Grade 8)

| TIMSS 2019 Question Number | TIMSS 2019 Variable Name | TIMSS 2019 Variable Description | TIMSS 2015 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 | BCBG14B | |
| ScQ-14c | BCBG14C | How would you characterize each of the following within your school? Teachers' expectations for student achievement | BCBG14C | |
| ScQ-14d | BCBG14D | How would you characterize each of the following within your school? Teachers' ability to inspire students | BCBG14E | |
| ScQ-14e | BCBG14E | How would you characterize each of the following within your school? Parental involvement in school activities | BCBG14F | |
| ScQ-14f | BCBG14F | How would you characterize each of the following within your school? Parental commitment to ensure that students are ready to learn | BCBG14G | |
| ScQ-14g | BCBG14G | How would you characterize each of the following within your school? Parental expectations for student achievement | BCBG14H | |
| ScQ-14h | BCBG14H | How would you characterize each of the following within your school? Parental support for student achievement | BCBG14I | |
| ScQ-14i | BCBG14I | How would you characterize each of the following within your school? Students' desire to do well in school | BCBG14K | |
| ScQ-14j | BCBG14J | How would you characterize each of the following within your school? Students' ability to reach school's academic goals | BCBG14L | |
| ScQ-14k | BCBG14K | How would you characterize each of the following within your school? Students' respect for classmates who excel academically | BCBG14M | Modified wording in 2019 |
| ScQ-15a | BCBG15A | How much do you agree with these statements about mathematics and science education within your school? The school provides students with information about career options in mathematics and science | | |
| ScQ-15b | BCBG15B | How much do you agree with these statements about mathematics and science education within your school? The school has initiatives to promote student interest in mathematics and science (e.g., student clubs, competitions) | | |
| ScQ-15c | BCBG15C | How much do you agree with these statements about mathematics and science education within your school? The school promotes professional development for teachers of mathematics and science | | |
| ScQ-15d | BCBG15D | How much do you agree with these statements about mathematics and science education within your school? The school provides extra lessons to help students excel in mathematics and science | | |
| ScQ-15e | BCBG15E | How much do you agree with these statements about mathematics and science education within your school? The school provides special activities in mathematics and science for interested students | | |
| ScQ-15f | BCBG15F | How much do you agree with these statements about mathematics and science education within your school? The school has a specific goal to improve mathematics and science education | | |
| ScQ-15g | BCBG15G | How much do you agree with these statements about mathematics and science education within your school? The school encourages students to continue studying mathematics and science in the future | | |
| ScQ-15h | BCBG15H | How much do you agree with these statements about mathematics and science education within your school? Mathematics and science teachers in this school spend extra time working with students interested in mathematics and science | | |
| ScQ-16a | BCBG16A | To what degree is each of the following a problem among <eighth grade> students in your school? Arriving late at school | BCBG15A | |

Exhibit 2.6: International Context Variables for the TIMSS 2019 School Questionnaire (Grade 8)

| TIMSS 2019 Question Number | TIMSS 2019 Variable Name | TIMSS 2019 Variable Description | TIMSS 2015 Variable Name | Notes |
|----------------------------|--------------------------|---|--------------------------|--------------------------|
| ScQ-16b | BCBG16B | To what degree is each of the following a problem among <eighth grade> students in your school? Absenteeism | BCBG15B | |
| ScQ-16c | BCBG16C | To what degree is each of the following a problem among <eighth grade> students in your school? Classroom disturbance | BCBG15C | |
| ScQ-16d | BCBG16D | To what degree is each of the following a problem among <eighth grade> students in your school? Cheating | BCBG15D | |
| ScQ-16e | BCBG16E | To what degree is each of the following a problem among <eighth grade> students in your school? Profanity | BCBG15E | |
| ScQ-16f | BCBG16F | To what degree is each of the following a problem among <eighth grade> students in your school? Vandalism | BCBG15F | |
| ScQ-16g | BCBG16G | To what degree is each of the following a problem among <eighth grade> students in your school? Theft | BCBG15G | |
| ScQ-16h | BCBG16H | To what degree is each of the following a problem among <eighth grade> students in your school? Intimidation or verbal abuse among students | BCBG15H | |
| ScQ-16i | BCBG16I | To what degree is each of the following a problem among <eighth grade> students in your school? Physical injury to other students | BCBG15I | |
| ScQ-16j | BCBG16J | 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 | BCBG15J | |
| ScQ-16k | BCBG16K | To what degree is each of the following a problem among <eighth grade> students in your school? Physical injury to teachers or staff | BCBG15K | |
| ScQ-17a | BCBG17A | To what degree is each of the following a problem among teachers in your school? Arriving late or leaving early | BCBG18A | |
| ScQ-17b | BCBG17B | To what degree is each of the following a problem among teachers in your school? Absenteeism | BCBG18B | |
| ScQ-18 | BCBG18 | By the end of this school year, how many years will you have been a principal altogether? | BCBG19 | |
| ScQ-19 | BCBG19 | By the end of this school year, how many years will you have been a principal at this school? | BCBG20 | |
| ScQ-20 | BCBG20 | What is the highest level of formal education you have completed? | BCBG21 | |
| ScQ-21a | BCBG21A | Do you hold the following qualifications or credentials in educational leadership? <Certificate or license> | | |
| ScQ-21b | BCBG21B | Do you hold the following qualifications or credentials in educational leadership? <Master's or equivalent level—ISCED Level 7> | BCBG22A | Modified wording in 2019 |
| ScQ-21c | BCBG21C | Do you hold the following qualifications or credentials in educational leadership? <Doctor or equivalent level—ISCED Level 8> | BCBG22B | Modified wording in 2019 |



Identification Label

TRENDS IN INTERNATIONAL MATHEMATICS AND SCIENCE STUDY

School Questionnaire

<Grade 8>

<TIMSS National Research Center Name>
<Address>

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TIMSS & PIRLS
International Study Center
Lynch School of Education
BOSTON COLLEGE

School Questionnaire

Your school has agreed to participate in TIMSS 2019 (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 2019

School Enrollment and Characteristics

BCBG01

1 What is the total enrollment of students in your school as of <first day of month TIMSS testing begins, 2019>?

_____ students
Write in the number.

BCBG02

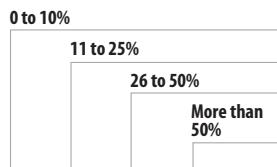
2 What is the total enrollment of <eighth grade> students in your school as of <first day of month TIMSS testing begins, 2019>?

_____ students
Write in the number.

3

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

Check one circle for each line.



BCBG03A

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

BCBG03B

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

BCBG04

4 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?

BCBG05A

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?

BCBG05B

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 ---

Instructional Time

6

For the <eighth grade> students in your school:

- BCBG06A A. How many days per year is your school open for instruction?

_____ days
Write in the number.

- BCBG06B 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.*

- BCBG06C 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 ---

Resources and Technology

BCBG07

7

How many computers (including tablets) does your school have for use by <eighth grade> students?

_____ computers
Write in the number.

BCBG08A

8

A. Does your school have a science laboratory that can be used by <eighth grade> students?

Check one circle only.

Yes ---
No ---

BCBG08B

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

Check one circle only.

Yes ---
No ---

BCBG09

9

Does your school use an online learning management system to support learning (e.g., teacher-student communication, management of grades, student access to course materials)?

Check one circle only.

Yes ---
No ---

10

A. Does your school have a school library?

BCBG10A

Check one circle only.

Yes ---
No ---

(If No, go to #11)

If Yes,

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

BCBG10B

Check one circle only.

2,000 books or fewer ---
More than 2,000 books ---

11

Does your school have classroom libraries?

BCBG11

Check one circle only.

Yes ---
No ---

12

Does your school provide students access to digital learning resources (e.g., books, videos)?

BCBG12

Check one circle only.

Yes ---
No ---



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.

| | | | |
|------------|----------|------|-------|
| Not at all | A little | Some | A lot |
|------------|----------|------|-------|

A. General School Resources

- 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 -----

Check **one** circle for each line.

| | | | |
|------------|----------|------|-------|
| Not at all | A little | Some | A lot |
|------------|----------|------|-------|

B. Resources for Mathematics Instruction

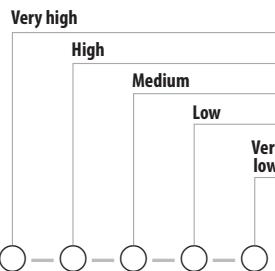
- BCBG13BA a) Teachers with a specialization in mathematics -----
- BCBG13BB b) Computer software/applications for mathematics instruction -----
- BCBG13BC c) Library resources relevant to mathematics instruction ---
- BCBG13BD d) Calculators for mathematics instruction -----
- BCBG13BE e) Concrete objects or materials to help students understand quantities or procedures -----
- C. Resources for Science Instruction**
- BCBG13CA a) Teachers with a specialization in science -----
- BCBG13CB b) Computer software/applications for science instruction -----
- BCBG13CC c) Library resources relevant to science instruction -----
- BCBG13CD d) Calculators for science instruction -----
- BCBG13CE e) Science equipment and materials for experiments -----

School Emphasis on Academic Success

14

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

Check **one** circle for each line.

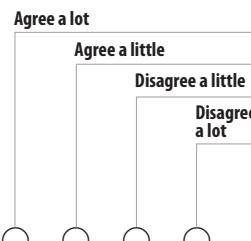


- BCBG14A a) Teachers' understanding of the school's curricular goals -----
- BCBG14B b) Teachers' degree of success in implementing the school's curriculum -----
- BCBG14C c) Teachers' expectations for student achievement -----
- BCBG14D d) Teachers' ability to inspire students -----
- BCBG14E e) Parental involvement in school activities -----
- BCBG14F f) Parental commitment to ensure that students are ready to learn -----
- BCBG14G g) Parental expectations for student achievement -----
- BCBG14H h) Parental support for student achievement -----
- BCBG14I i) Students' desire to do well in school -----
- BCBG14J j) Students' ability to reach school's academic goals -----
- BCBG14K k) Students' respect for classmates who excel academically -----

15

How much do you agree with these statements about mathematics and science education within your school?

Check **one** circle for each line.



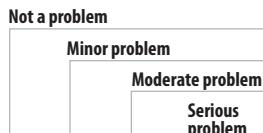
- BCBG15A a) The school provides students with information about career options in mathematics and science -----
- BCBG15B b) The school has initiatives to promote student interest in mathematics and science (e.g., student clubs, competitions) -----
- BCBG15C c) The school promotes professional development for teachers of mathematics and science -----
- BCBG15D d) The school provides extra lessons to help students excel in mathematics and science -----
- BCBG15E e) The school provides special activities in mathematics and science for interested students -----
- BCBG15F f) The school has a specific goal to improve mathematics and science education -----
- BCBG15G g) The school encourages students to continue studying mathematics and science in the future -----
- BCBG15H h) Mathematics and science teachers in this school spend extra time working with students interested in mathematics and science -----

School Discipline and Safety

16

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

Check **one** circle for each line.

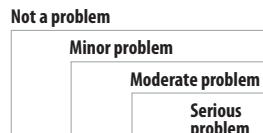


- BCBG16A a) Arriving late at school -----
 BCBG16B b) Absenteeism (i.e., unjustified absences) -----
 BCBG16C c) Classroom disturbance -----
 BCBG16D d) Cheating -----
 BCBG16E e) Profanity -----
 BCBG16F f) Vandalism -----
 BCBG16G g) Theft -----
 BCBG16H h) Intimidation or verbal abuse among students (including texting, emailing, etc.) -----
 BCBG16I i) Physical injury to other students -----
 BCBG16J j) Intimidation or verbal abuse of teachers or staff (including texting, emailing, etc.) -----
 BCBG16K k) Physical injury to teachers or staff -----

17

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

Check **one** circle for each line.



- BCBG17A a) Arriving late or leaving early --
 BCBG17B b) Absenteeism -----

Principal Experience and Education

18

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

BCBG18

_____ years

Please round to the nearest whole number.

19

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

BCBG19

_____ years

Please round to the nearest whole number.

20

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

BCBG20

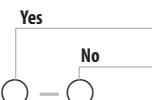
Check **one** circle only.

- 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> ---

21

Do you hold the following qualifications or credentials in educational leadership?

Check **one** circle for each line.



- BCBG21A a) <Certificate or license> -----
 BCBG21B b) <Master's or equivalent level—ISCED Level 7> -----
 BCBG21C c) <Doctor or equivalent level—ISCED Level 8> -----

Thank You

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



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<Grade 8>



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International Association
for the Evaluation of
Educational Achievement



SECTION 2.7: CURRICULUM QUESTIONNAIRE GRADE 8

TIMSS 2019 USER GUIDE FOR THE
INTERNATIONAL DATABASE



TIMSS & PIRLS
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Lynch School of Education
BOSTON COLLEGE

2019

Exhibit 2.7: International Context Variables for the TIMSS 2019 Curriculum Questionnaire (Grade 8)

| TIMSS 2019 Question Number | TIMSS 2019 Variable Name | TIMSS 2019 Variable Description |
|-------------------------------------|-----------------------------------|---|
| CQG-01 | GEN01 | What is your country's name for the grade(s) tested in TIMSS 2019, 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 what is the status of implementation? |
| CQG-04 | GEN04 | What are the ages (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-08A | GEN08A | State the official language(s) and describe the major language subgroups. |
| CQG-08B | GEN08B | Describe the languages of instruction for mathematics and science in the fourth and eighth grades. For example, is the instruction in these grades for these subjects presented to the students in their native language or in a second language? |
| CQG-09Aa | GEN09AA | Does your country provide universal ECED or PPE coverage? ECED programs for children under age 3 |
| CQG-09Ab | GEN09AB | Does your country provide universal ECED or PPE coverage? PPE programs for children age 3 or older |
| CQG-09B | GEN09B | How many years can children attend [ECED or PPE] programs altogether? |
| CQG-09BT | GEN09BT | How many years can children attend [ECED or PPE] programs altogether? Comments: |
| CQG-09Ca | GEN09CA | Does your country provide targeted ECED or PPE coverage? ECED programs for children under age 3 |
| CQG-09Cb | GEN09CB | Does your country provide targeted ECED or PPE coverage? PPE programs for children age 3 or older |
| CQG-09CT | GEN09CT | Does your country provide targeted ECED or PPE coverage? Please describe: |
| CQG-10Aa | GEN10AA | Does your country have national curriculum guidance documents for ECED or PPE programs? ECED programs for children under age 3 |
| CQG-10Ab | GEN10AB | Does your country have national curriculum guidance documents for ECED or PPE programs? PPE programs for children age 3 or older |
| CQG-10BaA | GEN10BAA | If Yes...Do the curriculum guidance documents cover any of the following topic areas? ECED programs: Socio-emotional development |
| CQG-10BaB | GEN10BAB | If Yes...Do the curriculum guidance documents cover any of the following topic areas? PPE programs: Socio-emotional development |
| CQG-10BbA | GEN10BBA | If Yes...Do the curriculum guidance documents cover any of the following topic areas? ECED programs: Physical development and health education |
| CQG-10BbB | GEN10BBB | If Yes...Do the curriculum guidance documents cover any of the following topic areas? PPE programs: Physical development and health education |
| CQG-10BcA | GEN10BCA | If Yes...Do the curriculum guidance documents cover any of the following topic areas? ECED programs: Oral language development and communication skills |
| CQG-10BcB | GEN10BCB | If Yes...Do the curriculum guidance documents cover any of the following topic areas? PPE programs: Oral language development and communication skills |
| CQG-10BdA | GEN10BDA | If Yes...Do the curriculum guidance documents cover any of the following topic areas? ECED programs: Reading and literacy skills |
| CQG-10BdB | GEN10BDB | If Yes...Do the curriculum guidance documents cover any of the following topic areas? PPE programs: Reading and literacy skills |
| CQG-10BeA | GEN10BEA | If Yes...Do the curriculum guidance documents cover any of the following topic areas? ECED programs: Mathematics and numeracy skills |

Exhibit 2.7: International Context Variables for the TIMSS 2019 Curriculum Questionnaire (Grade 8)

| TIMSS 2019 Question Number | TIMSS 2019 Variable Name | TIMSS 2019 Variable Description |
|----------------------------|--------------------------|--|
| CQG-10BeB | GEN10BEB | If Yes...Do the curriculum guidance documents cover any of the following topic areas? PPE programs: Mathematics and numeracy skills |
| CQG-10BfA | GEN10BFA | 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-10BfB | GEN10BFB | 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-10BgA | GEN10BGA | If Yes...Do the curriculum guidance documents cover any of the following topic areas? ECED programs: Other |
| CQG-10BgB | GEN10BGB | If Yes...Do the curriculum guidance documents cover any of the following topic areas? PPE programs: Other |
| CQG-10BgT | GEN10BGT | If Yes...Do the curriculum guidance documents cover any of the following topic areas? ECED and PPE programs: Other, please specify below |
| CQG-10BT | GEN10BT | If Yes...Do the curriculum guidance documents cover any of the following topic areas? ECED and PPE programs: Comments: |
| CQG-11A | GEN11A | 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-11B | GEN11B | If Yes...Please describe the grades at which the exams are given, the subjects that are assessed, and the purpose of each exam. |
| 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 | Are there additional requirements for teachers of mathematics and science in the fourth grade? |
| CQG-12D | GEN12D | If Yes...What are they? |
| CQG-12E | GEN12E | In the last 10 years, has there been a change in the stated official policy about the requirements for being a teacher of students in the fourth grade? |
| CQG-12F | GEN12F | If Yes...How did the policy change, and what is the status of implementation? |
| 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). |

Exhibit 2.7: International Context Variables for the TIMSS 2019 Curriculum Questionnaire (Grade 8)

| TIMSS 2019 Question Number | TIMSS 2019 Variable Name | TIMSS 2019 Variable Description |
|-------------------------------------|-----------------------------------|---|
| 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 | If there are additional requirements for teachers of mathematics and science in the eighth grade that are different than in the fourth grade, what are they? |
| CQG-13E | GEN13E | In the last 10 years, has there been a change in the stated official policy about the requirements for being a teacher of students in the eighth grade? |
| CQG-13F | GEN13F | If Yes...How did the policy change, and what is the status of implementation? |
| 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 |
| 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 | In the last 10 years, has there been a change in the stated official policy about the requirements for being a principal of a school with fourth grade students? |
| CQG-14D | GEN14D | If Yes...How did the policy change, and what is the status of implementation? |
| 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 | In the last 10 years, has there been a change in the stated official policy about the requirements for being a principal of a school with eighth grade students? |
| CQG-15E | GEN15E | If Yes...How did the policy change, and what is the status of implementation? |
| 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 2018/2019 mathematics curriculum introduced? |

Exhibit 2.7: International Context Variables for the TIMSS 2019 Curriculum Questionnaire (Grade 8)

| TIMSS 2019 Question Number | TIMSS 2019 Variable Name | TIMSS 2019 Variable Description |
|-------------------------------------|-----------------------------------|---|
| CQM8-02AT | MA802AT | In what year was the 2018/2019 mathematics curriculum introduced? Comments (e.g., status of implementation): |
| CQM8-02B | MA802B | Is the mathematics curriculum currently being revised? |
| CQM8-02BTA | MA802BTA | If Yes...Please explain: |
| CQM8-02BTB | MA802BTB | If No...Comments: |
| CQM8-03 | MA803 | 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? |
| CQM8-03TA | MA803TA | If Yes...Please specify the percentage: |
| CQM8-03TB | MA803TB | 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: |
| CQM8-04a | MA804A | How is the mathematics curriculum implementation evaluated? Visits by inspectors |
| CQM8-04b | MA804B | How is the mathematics curriculum implementation evaluated? Research programs |
| CQM8-04c | MA804C | How is the mathematics curriculum implementation evaluated? School self-evaluation |
| CQM8-04d | MA804D | How is the mathematics curriculum implementation evaluated? National or regional examinations |
| CQM8-04e | MA804E | How is the mathematics curriculum implementation evaluated? Other |
| CQM8-04eT | MA804ET | How is the mathematics curriculum implementation evaluated? Other, please specify below: |
| CQM8-04T | MA804T | How is the mathematics curriculum implementation evaluated? Comments: |
| CQM8-05A | MA805A | Does the national curriculum contain statements/policies about the use of digital devices (e.g., computers, tablets, calculators) in grade 8 mathematics instruction? |
| CQM8-05AT | MA805AT | If Yes...What are the statements/policies? |
| CQM8-05B | MA805B | Does the national curriculum contain statements/policies about student use of digital devices (e.g., computers, tablets, calculators) in grade 8 mathematics tests or examinations? |
| CQM8-05BTA | MA805BTA | If Yes...What are the statements/policies? |
| CQM8-05BTB | MA805BTB | Does the national curriculum contain statements/policies about student use of digital devices (e.g., computers, tablets, calculators) in grade 8 mathematics tests or examinations? Comments: |
| CQM8-06 | MA806 | At what grade(s) are students first taught by mathematics subject specialists rather than general classroom teachers? |
| CQM8-07Aa | MA807AA | 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 negative numbers |
| CQM8-07AaP to CQM8-07Aa12 | MA807AAP to MA807AA12 | Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Number: Computing with negative numbers |
| CQM8-07Ab | MA807AB | 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 fractions and decimals |
| CQM8-07AbP to CQM8-07Ab12 | MA807ABP to MA807AB12 | Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Number: Concepts of fractions and decimals |
| CQM8-07Ac | MA807AC | 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: Solving problems involving proportions and percents |
| CQM8-07AcP to CQM8-07Ac12 | MA807ACP to MA807AC12 | Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Number: Solving problems involving proportions and percents |

Exhibit 2.7: International Context Variables for the TIMSS 2019 Curriculum Questionnaire (Grade 8)

| TIMSS 2019 Question Number | TIMSS 2019 Variable Name | TIMSS 2019 Variable Description |
|-------------------------------------|-----------------------------------|--|
| CQM8-07AT | MA807AT | 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: |
| CQM8-07Ba | MA807BA | 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 |
| CQM8-07BaP to CQM8-07Ba12 | MA807BAP to MA807BA12 | 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 |
| CQM8-07Bb | MA807BB | 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 |
| CQM8-07BbP to CQM8-07Bb12 | MA807BBP to MA807BB12 | Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Algebra: Simple linear equations |
| CQM8-07Bc | MA807BC | 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 inequalities |
| CQM8-07BcP to CQM8-07Bc12 | MA807BCP to MA807BC12 | Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Algebra: Simple linear inequalities |
| CQM8-07Bd | MA807BD | 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 |
| CQM8-07BdP to CQM8-07Bd12 | MA807BDP to MA807BD12 | 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 |
| CQM8-07Be | MA807BE | 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 linear and quadratic functions in tables, graphs, words, or equations |
| CQM8-07BeP to CQM8-07Be12 | MA807BEP to MA807BE12 | Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Algebra: Representation of linear and quadratic functions in tables, graphs, words, or equations |
| CQM8-07Bf | MA807BF | 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 (slopes, intercepts, etc.) |
| CQM8-07BfP to CQM8-07Bf12 | MA807BFP to MA807BF12 | Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Algebra: Properties of functions (slopes, intercepts, etc.) |
| CQM8-07Bg | MA807BG | 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 (extension, missing terms, generalization of patterns) |
| CQM8-07BgP to CQM8-07Bg12 | MA807BGP to MA807BG12 | 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 (extension, missing terms, generalization of patterns) |
| CQM8-07BT | MA807BT | 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: |

Exhibit 2.7: International Context Variables for the TIMSS 2019 Curriculum Questionnaire (Grade 8)

| TIMSS 2019 Question Number | TIMSS 2019 Variable Name | TIMSS 2019 Variable Description |
|-------------------------------------|-----------------------------------|--|
| CQM8-07Ca | MA807CA | 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, pairs of lines, and geometric shapes (triangles, quadrilaterals, and other common polygons) |
| CQM8-07CaP to CQM8-07Ca12 | MA807CAP to MA807CA12 | 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, pairs of lines, and geometric shapes (triangles, quadrilaterals, and other common polygons) |
| CQM8-07Cb | MA807CB | 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: Solving problems involving perimeters, circumferences, and areas |
| CQM8-07CbP to CQM8-07Cb12 | MA807CBP to MA807CB12 | Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Geometry: Solving problems involving perimeters, circumferences, and areas |
| CQM8-07Cc | MA807CC | 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: Solving problems involving the Pythagorean Theorem |
| CQM8-07CcP to CQM8-07Cc12 | MA807CCP to MA807CC12 | Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Geometry: Solving problems involving the Pythagorean Theorem |
| CQM8-07Cd | MA807CD | 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 |
| CQM8-07CdP to CQM8-07Cd12 | MA807CDP to MA807CD12 | 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 |
| CQM8-07Ce | MA807CE | 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 |
| CQM8-07CeP to CQM8-07Ce12 | MA807CEP to MA807CE12 | 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 |
| CQM8-07Cf | MA807CF | 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: Solving problems with three-dimensional shapes |
| CQM8-07CfP to CQM8-07Cf12 | MA807CFP to MA807CF12 | Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Solving problems with three-dimensional shapes |
| CQM8-07CT | MA807CT | 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: |
| CQM8-07Da | MA807DA | 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 Probability: Reading and interpreting data from one or more sources to solve problems (interpolating, extrapolating, drawing conclusions) |
| CQM8-07DaP to CQM8-07Da12 | MA807DAP to MA807DA12 | Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Data and Probability: Reading and interpreting data from one or more sources to solve problems (interpolating, extrapolating, drawing conclusions) |

Exhibit 2.7: International Context Variables for the TIMSS 2019 Curriculum Questionnaire (Grade 8)

| TIMSS 2019 Question Number | TIMSS 2019 Variable Name | TIMSS 2019 Variable Description |
|---|---|--|
| CQM8-07Db | MA807DB | 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 Probability: Identifying appropriate procedures for collecting data |
| CQM8-07DbP to CQM8-07Db12 | MA807DBP to MA807DB12 | Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Data and Probability: Identifying appropriate procedures for collecting data |
| CQM8-07Dc | MA807DC | 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 Probability: Organizing and representing data to help answer questions |
| CQM8-07DcP to CQM8-07Dc12 | MA807DCP to MA807DC12 | Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Data and Probability: Organizing and representing data to help answer questions |
| CQM8-07Dd | MA807DD | 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 Probability: Calculating and interpreting statistics summarizing data distributions |
| CQM8-07DdP to CQM8-07Dd12 | MA807DDP to MA807DD12 | Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Data and Probability: Calculating and interpreting statistics summarizing data distributions |
| CQM8-07De | MA807DE | 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 Probability: Theoretical and empirical probability of simple events |
| CQM8-07DeP to CQM8-07De12 | MA807DEP to MA807DE12 | Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Data and Probability: Theoretical and empirical probability of simple events |
| CQM8-07Df | MA807DF | 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 Probability: Theoretical and empirical probability of compound events |
| CQM8-07DfP to CQM8-07Df12 | MA807DFP to MA807DF12 | Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Data and Probability: Theoretical and empirical probability of compound events |
| CQM8-07DT | MA807DT | 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 Probability 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 2018/2019 science curriculum introduced? |
| CQS8-02AT | SC802AT | In what year was the 2018/2019 science curriculum introduced? Comments (e.g., status of implementation): |
| CQS8-02B | SC802B | Is the science curriculum currently being revised? |
| CQS8-02BTA | SC802BTA | If Yes...Please explain: |
| CQS8-02BTB | SC802BTB | If No...Comments: |
| CQS8-03 | SC803 | 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? |
| CQS8-03TA | SC803TA | If Yes...Please specify the percentage |

Exhibit 2.7: International Context Variables for the TIMSS 2019 Curriculum Questionnaire (Grade 8)

| TIMSS 2019 Question Number | TIMSS 2019 Variable Name | TIMSS 2019 Variable Description |
|---|---|--|
| CQS8-03TB | SC803TB | 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: |
| CQS8-04a | SC804A | How is the science curriculum implementation evaluated? Visits by inspectors |
| CQS8-04b | SC804B | How is the science curriculum implementation evaluated? Research programs |
| CQS8-04c | SC804C | How is the science curriculum implementation evaluated? School self-evaluation |
| CQS8-04d | SC804D | How is the science curriculum implementation evaluated? National or regional examinations |
| CQS8-04e | SC804E | How is the science curriculum implementation evaluated? Other |
| CQS8-04eT | SC804ET | How is the science curriculum implementation evaluated? Other, please specify below: |
| CQS8-04T | SC804T | How is the science curriculum implementation evaluated? Comments: |
| CQS8-05A | SC805A | Does the national curriculum contain statements/policies about the use of digital devices (e.g., computers, tablets, calculators) in grade 8 science instruction? |
| CQS8-05AT | SC805AT | If Yes...What are the statements/policies? |
| CQS8-06 | SA806 | At what grade(s) are students first taught by science subject specialists rather than general classroom teachers? |
| CQS8-07Aa | SC807AA | 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 (plants, animals, fungi, mammals, birds, reptiles, fish, amphibians, insects) |
| CQS8-07AaP to CQS8-07Aa12 | SC807AAP to SC807AA12 | 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 (plants, animals, fungi, mammals, birds, reptiles, fish, amphibians, insects) |
| CQS8-07Ab | SC807AB | 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 (structure/function, life processes) |
| CQS8-07AbP to CQS8-07Ab12 | SC807ABP to SC807AB12 | 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 (structure/function, life processes) |
| CQS8-07Ac | SC807AC | 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 |
| CQS8-07AcP to CQS8-07Ac12 | SC807ACP to SC807AC12 | 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 |
| CQS8-07Ad | SC807AD | 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 (inherited versus acquired/learned characteristics) |
| CQS8-07AdP to CQS8-07Ad12 | SC807ADP to SC807AD12 | 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 (inherited versus acquired/learned characteristics) |
| CQS8-07Ae | SC807AE | 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 (including fossil evidence) |
| CQS8-07AeP to CQS8-07Ae12 | SC807AEP to SC807AE12 | 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 (including fossil evidence) |

Exhibit 2.7: International Context Variables for the TIMSS 2019 Curriculum Questionnaire (Grade 8)

| TIMSS 2019 Question Number | TIMSS 2019 Variable Name | TIMSS 2019 Variable Description |
|-------------------------------------|-----------------------------------|--|
| CQS8-07Af | SC807AF | 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 (e.g., carbon and water cycles, energy flow, food webs, competition, predation, human impacts on ecosystems) |
| CQS8-07AfP to CQS8-07Af12 | SC807AFFP to SC807AF12 | 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 (e.g., carbon and water cycles, energy flow, food webs, competition, predation, human impacts on ecosystems) |
| CQS8-07Ag | SC807AG | 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 (e.g., causes, transmission, and prevention of common infectious diseases, immunity) and the importance of diet, exercise, and other lifestyle choices in maintaining health |
| CQS8-07AgP to CQS8-07Ag12 | SC807AGP to SC807AG12 | Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Biology: Human health (e.g., causes, transmission, and prevention of common infectious diseases, immunity) and the importance of diet, exercise, and other lifestyle choices in maintaining health |
| CQS8-07AT | SC807AT | 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: |
| CQS8-07Ba | SC807BA | 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: Particulate structure, classification, and composition of matter (protons, neutrons, electrons, atoms, molecules, elements, compounds, mixtures) |
| CQS8-07BaP to CQS8-07Ba12 | SC807BAP to SC807BA12 | Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Chemistry: Particulate structure, classification, and composition of matter (protons, neutrons, electrons, atoms, molecules, elements, compounds, mixtures) |
| CQS8-07Bb | SC807BB | 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 periodic table as an organizing principle for the known elements |
| CQS8-07BbP to CQS8-07Bb12 | SC807BBP to SC807BB12 | Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Chemistry: The periodic table as an organizing principle for the known elements |
| CQS8-07Bc | SC807BC | 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 |
| CQS8-07BcP to CQS8-07Bc12 | SC807BCP to SC807BC12 | 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 |
| CQS8-07Bd | SC807BD | 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 (e.g., solvent, solute, concentration/dilution) |
| CQS8-07BdP to CQS8-07Bd12 | SC807BDP to SC807BD12 | Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Chemistry: Mixtures and solutions (e.g., solvent, solute, concentration/dilution) |

Exhibit 2.7: International Context Variables for the TIMSS 2019 Curriculum Questionnaire (Grade 8)

| TIMSS 2019 Question Number | TIMSS 2019 Variable Name | TIMSS 2019 Variable Description |
|-------------------------------------|-----------------------------------|--|
| CQS8-07Be | SC807BE | 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 of common acids and bases (e.g., acids have pH less than 7, reactions with indicators produce color changes, acids and bases neutralize each other) |
| CQS8-07BeP to CQS8-07Be12 | SC807BEP to SC807BE12 | Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Chemistry: Properties of common acids and bases (e.g., acids have pH less than 7, reactions with indicators produce color changes, acids and bases neutralize each other) |
| CQS8-07Bf | SC807BF | 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: Characteristics of chemical reactions (e.g., transformation of reactants, evidence of chemical change) |
| CQS8-07BfP to CQS8-07Bf12 | SC807BFP to SC807BF12 | Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Chemistry: Characteristics of chemical reactions (e.g., transformation of reactants, evidence of chemical change) |
| CQS8-07Bg | SC807BG | 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: Matter and energy in chemical reactions (conservation of matter, familiar exothermic and endothermic reactions, factors affecting reaction rates) |
| CQS8-07BgP to CQS8-07Bg12 | SC807BGP to SC807BG12 | Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Chemistry: Matter and energy in chemical reactions (conservation of matter, familiar exothermic and endothermic reactions, factors affecting reaction rates) |
| CQS8-07Bh | SC807BH | 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 |
| CQS8-07BhP to CQS8-07Bh12 | SC807BHP to SC807BH12 | 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 |
| CQS8-07BT | SC807BT | 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: |
| CQS8-07Ca | SC807CA | 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 (explanations of properties in terms of movement and distance between particles; phase change, changes in volume and/or pressure, physical changes) |
| CQS8-07CaP to CQS8-07Ca12 | SC807CAP to SC807CA12 | 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 (explanations of properties in terms of movement and distance between particles; phase change, changes in volume and/or pressure, physical changes) |
| CQS8-07Cb | SC807CB | 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 transformation and transfer (e.g., forms of energy, energy conservation, heat temperature, equilibrium) |
| CQS8-07CbP to CQS8-07Cb12 | SC807CBP to SC807CB12 | Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Physics: Energy transformation and transfer (e.g., forms of energy, energy conservation, heat temperature, equilibrium) |
| CQS8-07Cc | SC807CC | 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 (reflection, refraction, color, shadows, simple ray diagrams) |

Exhibit 2.7: International Context Variables for the TIMSS 2019 Curriculum Questionnaire (Grade 8)

| TIMSS 2019 Question Number | TIMSS 2019 Variable Name | TIMSS 2019 Variable Description |
|-------------------------------------|-----------------------------------|---|
| CQS8-07CcP to CQS8-07Cc12 | SC807CCP to SC807CC12 | 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 (reflection, refraction, color, shadows, simple ray diagrams) |
| CQS8-07Cd | SC807CD | 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 sound (vibrations that produce sound, transmission through media, loudness, pitch) |
| CQS8-07CdP to CQS8-07Cd12 | SC807CDP to SC807CD12 | 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 sound (vibrations that produce sound, transmission through media, loudness, pitch) |
| CQS8-07Ce | SC807CE | 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 (e.g., electrical conductors/insulators and the flow of electricity in series/parallel circuits) |
| CQS8-07CeP to CQS8-07Ce12 | SC807CEP to SC807CE12 | Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Physics: Electric circuits (e.g., electrical conductors/insulators and the flow of electricity in series/parallel circuits) |
| CQS8-07Cf | SC807CF | 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: Properties and uses of permanent magnets and electromagnets |
| CQS8-07CfP to CQS8-07Cf12 | SC807CFP to SC807CF12 | Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Physics: Properties and uses of permanent magnets and electromagnets |
| CQS8-07Cg | SC807CG | 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: Motion and forces (e.g., basic description of motion, common mechanical forces, properties of forces, effects of forces, simple machines, buoyancy, effects of density and pressure) |
| CQS8-07CgP to CQS8-07Cg12 | SC807CGP to SC807CG12 | Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught? Physics: Motion and forces (e.g., basic description of motion, common mechanical forces, properties of forces, effects of forces, simple machines, buoyancy, effects of density and pressure) |
| CQS8-07CT | SC807CT | 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: |
| CQS8-07Da | SC807DA | 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 (e.g., Earth's crust, mantle, and core; composition and relative distribution of water; composition of Earth's atmosphere) |
| CQS8-07DaP to CQS8-07Da12 | SC807DAP to SC807DA12 | 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 (e.g., Earth's crust, mantle, and core; composition and relative distribution of water; composition of Earth's atmosphere) |
| CQS8-07Db | SC807DB | 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 (e.g., rock cycle, major geological events, formation of fossils and fossil fuels, water cycle, weather versus climate) |
| CQS8-07DbP to CQS8-07Db12 | SC807DBP to SC807DB12 | 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 (e.g., rock cycle, major geological events, formation of fossils and fossil fuels, water cycle, weather versus climate) |

Exhibit 2.7: International Context Variables for the TIMSS 2019 Curriculum Questionnaire (Grade 8)

| TIMSS 2019 Question Number | TIMSS 2019 Variable Name | TIMSS 2019 Variable Description |
|-------------------------------------|-----------------------------------|---|
| CQS8-07Dc | SC807DC | 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 (e.g., renewable/nonrenewable resources, human use of land and water resources) |
| CQS8-07DcP to CQS8-07Dc12 | SC807DCP to SC807DC12 | 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 (e.g., renewable/nonrenewable resources, human use of land and water resources) |
| CQS8-07Dd | SC807DD | 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 (phenomena on Earth: seasons, eclipses, tides, phases of moon; members of the Solar System; physical features of Earth) |
| CQS8-07DdP to CQS8-07Dd12 | SC807DDP to SC807DD12 | 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 (phenomena on Earth: seasons, eclipses, tides, phases of moon; members of the Solar System; physical features of Earth) |
| CQS8-07DT | SC807DT | 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: |



TIMSS 2019

Curriculum Questionnaire

Eighth Grade



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TIMSS 2019 Curriculum Questionnaire

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Password:



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TIMSS 2019 Curriculum Questionnaire – Eighth Grade

TIMSS 2019 Curriculum Questionnaire – Eighth Grade

The TIMSS 2019 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 October 30, 2019.

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." When you have completed the questionnaire, please make sure to click the "Submit" button to submit your answers.

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 2019 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 Hamburg (TIMSS email account): timss@iea-hamburg.de

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Grade 8

CURRICULUM QUESTIONNAIRE

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TIMSS 2019 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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TIMSS 2019 Curriculum Questionnaire – Eighth Grade - Grade Structure and Student Flow

GEN01

Grade Structure and Student Flow

G1. What is your country's name for the grade(s) tested in TIMSS 2019, in English (e.g., grade 4, grade 8)?

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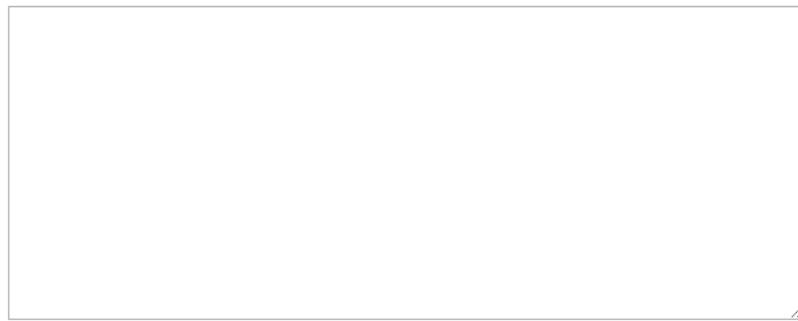
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TIMSS 2019 Curriculum Questionnaire – Eighth Grade - Grade Structure and Student Flow

GEN02A
GEN02B

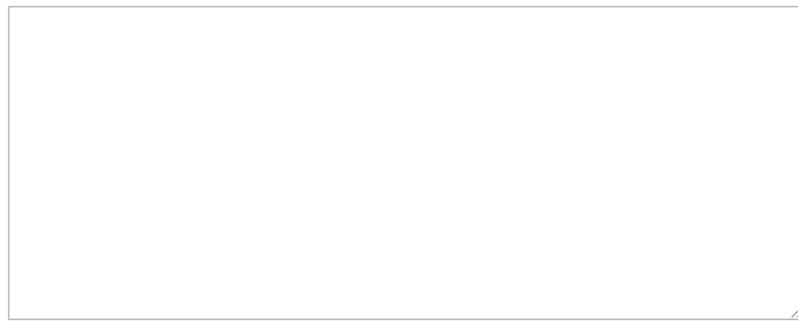
G2. A. In your country, what is the stated official policy or regulation on students' age of entry to primary school (ISCED Level 1)?

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."



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 2019 Curriculum Questionnaire – Eighth Grade - Grade Structure and Student Flow

GEN03A

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

GEN03B

Check one circle only.

- Yes
 No

If Yes....

B. How did the policy change, and what is the status of implementation?

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Grade 8

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TIMSS 2019 Curriculum Questionnaire – Eighth Grade - Grade Structure and Student Flow

GEN04

G4. What are the ages (or grades) of compulsory education in your country?

Example: "Ages 6-16 (or Grades 1-9)."

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TIMSS 2019 Curriculum Questionnaire – Eighth Grade - Grade Structure and Student Flow

GEN05

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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TIMSS 2019 Curriculum Questionnaire – Eighth Grade - Grade Structure and Student Flow

GEN06

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

GEN06T

Please describe:

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TIMSS 2019 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

GEN07T

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TIMSS 2019 Curriculum Questionnaire – Eighth Grade - Languages of Instruction

GEN08A

Languages of Instruction

G8. A. State the official language(s) and describe the major language subgroups.

GEN08B

B. Describe the languages of instruction for mathematics and science in the fourth and eighth grades. For example, is the instruction in these grades for these subjects presented to the students in their native language or in a second language?

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TIMSS 2019 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 age 3; and
- Pre-primary education (PPE) programs including Kindergarten for children age 3 or older.

G9. 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.

GEN09AA
GEN09AB

GEN09B

GEN09BT

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

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TIMSS 2019 Curriculum Questionnaire – Eighth Grade - Early Childhood Education

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 for each line.

Yes No

- GEN09CA a) ECED programs for children under age 3
GEN09CB b) PPE programs for children age 3 or older



GEN09CT **Please describe:**

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TIMSS 2019 Curriculum Questionnaire – Eighth Grade - Early Childhood Education

Early childhood education (ISCED Level 0) is subdivided into:

- *Early childhood educational development (ECED) programs for children under age 3; and*
- *Pre-primary education (PPE) programs including Kindergarten for children age 3 or older.*

G10. A. Does your country have national curriculum guidance documents for ECED or PPE programs?

Check one circle for each line.

GEN10AA
GEN10AB

| | |
|-----------------------|-----------------------|
| Yes | No |
| <input type="radio"/> | <input type="radio"/> |
| <input type="radio"/> | <input type="radio"/> |

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TIMSS 2019 Curriculum Questionnaire – Eighth Grade - Early Childhood Education

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.

GEN10BAA
 GEN10BBA
 GEN10BCA
 GEN10BDA
 GEN10BEA
 GEN10BFA
 GEN10BGA
 GEN10BGT

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

GEN10BT

Comments:

Comments:

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TIMSS 2019 Curriculum Questionnaire – Eighth Grade - Examinations

Examinations

GEN11A

G11. 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....

GEN11B

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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TIMSS 2019 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."

GEN12A

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TIMSS 2019 Curriculum Questionnaire – Eighth Grade - Teacher Preparation

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.

GEN12BA

- a) Supervised practicum during the teacher education program.
If Yes...
How long is this period?

Yes

No

GEN12BAT

- b) Passing a qualifying examination (e.g., licensing, certification).

Yes

No

GEN12BB

- c) Completion of a probationary teaching period.
If Yes...
How long is this period?

Yes

No

GEN12BC

- d) Completion of a mentoring or induction program (e.g., experienced teachers work with novice teachers to provide instructional guidance).

Yes

No

GEN12BD

- e) Other
Please specify below:

Yes

No

GEN12BE

GEN12BET

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TIMSS 2019 Curriculum Questionnaire – Eighth Grade - Teacher Preparation

GEN12C

C. Are there additional requirements for teachers of mathematics and science in the fourth grade?

Check one circle only.

- Yes
 No

If Yes...

D. What are they?

GEN12D

GEN12E

E. In the last 10 years, has there been a change in the stated official policy about the requirements for being a teacher of students in the fourth grade?

Check one circle only.

- Yes
 No

If Yes....

F. How did the policy change, and what is the status of implementation?

GEN12F

Example: "A master's degree will be required in 2020; an oral examination has been required since 2018."

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TIMSS 2019 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

If Yes....

GEN13B

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

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TIMSS 2019 Curriculum Questionnaire – Eighth Grade - Teacher Preparation

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

- a) Supervised practicum during the teacher education program.
If Yes...
How long is this period?

Yes

No

GEN13CAT

- b) Passing a qualifying examination (e.g., licensing, certification).

Yes

No

GEN13CB

- c) Completion of a probationary teaching period.
If Yes...
How long is this period?

Yes

No

GEN13CC

- d) Completion of a mentoring or induction program (e.g., experienced teachers work with novice teachers to provide instructional guidance).

Yes

No

GEN13CE

- e) Other
Please specify below:

Yes

No

GEN13CET

GEN13D

- D. If there are additional requirements for teachers of mathematics and science in the eighth grade that are different than in the fourth grade, what are they?**

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Grade 8

CURRICULUM QUESTIONNAIRE

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TIMSS 2019 Curriculum Questionnaire – Eighth Grade - Teacher Preparation

GEN13E

E. In the last 10 years, has there been a change in the stated official policy about the requirements for being a teacher of students in the eighth grade?

Check one circle only.

- Yes
 No

GEN13F

If Yes....

F. How did the policy change, and what is the status of implementation?

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TIMSS 2019 Curriculum Questionnaire – Eighth Grade - Principal Preparation

Principal Preparation

GEN14A

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.

GEN14BA
GEN14BB
GEN14BC

- | | 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"/> |

GEN14BCT

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TIMSS 2019 Curriculum Questionnaire – Eighth Grade - Principal Preparation

GEN14C

C. In the last 10 years, has there been a change in the stated official policy about the requirements for being a principal of a school with fourth grade students?

Check one circle only.

- Yes
 No

GEN14D

If Yes....

D. How did the policy change, and what is the status of implementation?

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TIMSS 2019 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

If Yes....

GEN15B

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."

GEN15CA

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.

GEN15CB

- | | Yes | No |
|--|-----------------------|----------------------------------|
| a) Teaching experience | <input type="radio"/> | <input checked="" type="radio"/> |
| b) Completion of a specialized school leadership training program (including a school leadership degree program) | <input type="radio"/> | <input checked="" type="radio"/> |
| c) Other | <input type="radio"/> | <input checked="" type="radio"/> |

GEN15CC

Please specify below:

GEN15CCT

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TIMSS 2019 Curriculum Questionnaire – Eighth Grade - Principal Preparation

GEN15D

D. In the last 10 years, has there been a change in the stated official policy about the requirements for being a principal of a school with eighth grade students?

Check one circle only.

- Yes
 No

If Yes....

GEN15E

E. How did the policy change, and what is the status of implementation?

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TIMSS 2019 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 2019—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 2019 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 2019—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.

MA801

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:

MA801TA

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?

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TIMSS 2019 Curriculum Questionnaire – Eighth Grade - About the Eighth Grade Mathematics Curriculum

MA802A

M2. A. In what year was the 2018/2019 mathematics curriculum introduced?

MA802AT

Comments (e.g., status of implementation):

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TIMSS 2019 Curriculum Questionnaire – Eighth Grade - About the Eighth Grade Mathematics Curriculum

MA802B

B. Is the mathematics curriculum currently being revised?

Check one circle only.

- Yes
 No

MA802BTA

If Yes...
Please explain:

MA802BTB

If No...
Comments:

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TIMSS 2019 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 2019—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.

MA803

M3. 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:

MA803TA

MA803TB

Comments:

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TIMSS 2019 Curriculum Questionnaire – Eighth Grade - Curriculum Specifications

M4. How is the mathematics curriculum implementation evaluated?

Check one circle for each line.

MA804A
MA804B
MA804C
MA804D
MA804E

MA804ET

| | 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"/> |

MA804T

Comments:

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TIMSS 2019 Curriculum Questionnaire – Eighth Grade - Use of Digital Devices

Use of Digital Devices

This mathematics module refers to the national curriculum that was in effect for the eighth grade students assessed in TIMSS 2019—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.

MA805A

M5. A. Does the national curriculum contain statements/policies about the use of digital devices (e.g., computers, tablets, calculators) in grade 8 mathematics instruction?

Check one circle only.

- Yes
 No

If Yes...

MA805AT

What are the statements/policies?

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TIMSS 2019 Curriculum Questionnaire – Eighth Grade - Use of Digital Devices

MA805B

B. Does the national curriculum contain statements/policies about student use of digital devices (e.g., computers, tablets, calculators) in grade 8 mathematics tests or examinations?

Check one circle only.

- Yes
 No

If Yes...

What are the statements/policies?

MA805BTA

Comments:

MA805BTB

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TIMSS 2019 Curriculum Questionnaire – Eighth Grade - Specialist Mathematics Teachers

MA806

Specialist Mathematics Teachers

M6. At what grade(s) are students first taught by mathematics subject specialists rather than general classroom teachers?

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TIMSS 2019 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 2019—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.

M7. (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 (b)], please explain in the comment field.

| | A. Number | (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. | | | | | | | | | | | | |
| MA807AA | a) Computing with negative numbers | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | PP | G1 | G2 | G3 | G4 | G5 | G6 | G7 | G8 | G9 | G10 | G11 | G12 |
| MA807AB | b) Concepts of fractions and decimals | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | PP | G1 | G2 | G3 | G4 | G5 | G6 | G7 | G8 | G9 | G10 | G11 | G12 |
| MA807AC | c) Solving problems involving proportions and percents | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | PP | G1 | G2 | G3 | G4 | G5 | G6 | G7 | G8 | G9 | G10 | G11 | G12 |
| MA807AT | Comments: | | | | | | | | | | | | | | | | |

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TIMSS 2019 Curriculum Questionnaire – Eighth Grade - Eighth Grade Mathematics Topics Covered

M7. (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 (b)), please explain in the comment field.

| | B. Algebra | (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 |
| MA807BA | a) Simplifying and evaluating algebraic expressions | <input type="radio"/> | <input checked="" 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"/> |
| MA807BB | b) Simple linear equations | <input type="radio"/> | <input checked="" 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"/> |
| MA807BC | c) Simple linear inequalities | <input type="radio"/> | <input checked="" 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"/> |
| MA807BD | d) Simultaneous (two variables) equations | <input type="radio"/> | <input checked="" 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"/> |
| MA807BE | e) Representation of linear and quadratic functions in tables, graphs, words, or equations | <input type="radio"/> | <input checked="" 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"/> |
| MA807BF | f) Properties of functions (slopes, intercepts, etc.) | <input type="radio"/> | <input checked="" 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"/> |
| MA807BG | g) Numeric, algebraic, and geometric patterns or sequences (extension, missing terms, generalization of patterns) | <input type="radio"/> | <input checked="" 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"/> |
| MA807BT | Comments: | | | | | | | | | | | | | | | |

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TIMSS 2019 Curriculum Questionnaire – Eighth Grade - Eighth Grade Mathematics Topics Covered

M7. (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 (b)], please explain in the comment field.

| | C. Geometry | (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 |
| MA807CA | a) Geometric properties of angles, pairs of lines, 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"/> | |
| MA807CB | b) Solving problems involving perimeters, circumferences, and areas | <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"/> | |
| MA807CC | c) Solving problems involving the Pythagorean Theorem | <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"/> | |
| MA807CD | d) 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"/> | |
| MA807CE | e) 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"/> | |
| MA807CF | f) Solving problems with 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"/> | |
| MA807CT | Comments: | | | | | | | | | | | | | | | |

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TIMSS 2019 Curriculum Questionnaire – Eighth Grade - Eighth Grade Mathematics Topics Covered

M7. (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 (b)], please explain in the comment field.

MA807DA
MA807DB
MA807DC
MA807DD
MA807DE
MA807DF
MA807DT

D. Data and Probability

- a) Reading and interpreting data from one or more sources to solve problems (interpolating, extrapolating, drawing conclusions)
- b) Identifying appropriate procedures for collecting data
- c) Organizing and representing data to help answer questions
- e) Calculating and interpreting statistics summarizing data distributions
- e) Theoretical and empirical probability of simple events
- f) Theoretical and empirical probability of compound events

(i) Proportion of grade 8 students expected to be taught topic

All or almost all students
Only the more able students
Not included in the curriculum through grade 8

(ii) Grade(s) topic is expected to be taught preprimary (PP) through the end of upper secondary (G12)

Check the corresponding grade(s) for each topic.

| | PP | G1 | G2 | G3 | G4 | G5 | G6 | G7 | G8 | G9 | G10 | G11 | G12 |
|----|--------------------------|--------------------------|--------------------------|----|----|----|----|----|----|----|-----|-----|-----|
| a) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | |
| b) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | |
| c) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | |
| e) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | |
| e) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | |
| f) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | |

Comments:

MA807DAP-12
MA807DBP-12
MA807DCP-12
MA807DDP-12
MA807DEP-12
MA807DFP-12

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TIMSS 2019 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 2019—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 2019 Curriculum Questionnaire – Eighth Grade - About the Eighth Grade Science Curriculum

SC801

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 2019—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?

SC801TB

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TIMSS 2019 Curriculum Questionnaire – Eighth Grade - About the Eighth Grade Science Curriculum

SC802A

S2. A. In what year was the 2018/2019 science curriculum introduced?

SC802AT

Comments (e.g., status of implementation):

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TIMSS 2019 Curriculum Questionnaire – Eighth Grade - About the Eighth Grade Science Curriculum

SC802B

B. Is the science curriculum currently being revised?

Check one circle only.

- Yes
 No

SC802BTA

If Yes...
Please explain:

SC802BTB

If No...
Comments:

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TIMSS 2019 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 2019—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.

SC803

S3. 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

If Yes...

SC803TA

Please specify the percentage:

SC803TB

Comments:

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TIMSS 2019 Curriculum Questionnaire – Eighth Grade - Curriculum Specifications

S4. How is the science curriculum implementation evaluated?

Check one circle for each line.

Yes No

- a) Visits by inspectors
- b) Research programs
- c) School self-evaluation
- d) National or regional examinations
- e) Other
Please specify below:

SC804ET

SC804T

Comments:

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TIMSS 2019 Curriculum Questionnaire – Eighth Grade - Use of Digital Devices

Use of Digital Devices

This science module refers to the national curriculum that was in effect for the eighth grade students assessed in TIMSS 2019—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.

SC805

S5. Does the national curriculum contain statements/policies about the use of digital devices (e.g., computers, tablets, calculators) in grade 8 science instruction?

Check one circle only.

- Yes
 No

SC805T

If Yes...

What are the statements/policies?

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TIMSS 2019 Curriculum Questionnaire – Eighth Grade - Specialist Science Teachers

SC806

Specialist Science Teachers

S6. At what grade(s) are students first taught by science subject specialists rather than general classroom teachers?

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TIMSS 2019 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 2019—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.

S7. (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) | | | | | | | | | | | | |
|---------|------------|--|-----------------------------|--|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| | | 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 |
| SC807AA | A. Biology | a) Differences among major taxonomic groups of organisms (plants, animals, fungi, mammals, birds, reptiles, fish, amphibians, insects) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="checkbox"/> |
| SC807AB | | b) Major organs and organ systems in humans and other organisms (structure/function, life processes) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="checkbox"/> |
| SC807AC | | 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"/> |
| SC807AD | | d) Life cycles, sexual reproduction, and heredity (inherited versus acquired/learned characteristics) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="checkbox"/> |
| SC807AE | | e) Role of variation and adaptation in survival/extinction of species (including fossil evidence) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="checkbox"/> |

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Grade 8

CURRICULUM QUESTIONNAIRE

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Grade 8

CURRICULUM QUESTIONNAIRE

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S7. (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.

| | B. Chemistry | (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 |
| SC807BA | a) Particulate structure, classification, and composition of matter (protons, neutrons, electrons, atoms, molecules, elements, compounds, mixtures) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | | <input type="checkbox"/> | |
| SC807BB | b) The periodic table as an organizing principle for the known elements | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | | <input type="checkbox"/> | |
| SC807BC | c) Physical and chemical properties of matter | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | | <input type="checkbox"/> | |
| SC807BD | d) Mixtures and solutions (e.g., solvent, solute, concentration/dilution) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | | <input type="checkbox"/> | |
| SC807BE | e) Properties of common acids and bases (e.g., acids have pH less than 7, reactions with indicators produce color changes, acids and bases neutralize each other) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | | <input type="checkbox"/> | |
| SC807BF | f) Characteristics of chemical reactions (e.g., transformation of reactants, evidence of chemical change) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | | <input type="checkbox"/> | |
| SC807BG | g) Matter and energy in chemical reactions (conservation of matter, familiar exothermic and endothermic reactions, factors affecting reaction rates) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | | <input type="checkbox"/> | |
| SC807BH | h) The role of electrons in chemical bonds | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | | <input type="checkbox"/> |

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S7. (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.

| | C. Physics | (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. | | | | | | | | | | | | |
| SC807CA | a) Physical states and changes in matter (explanations of properties in terms of movement and distance between particles; phase change, changes in volume and/or pressure, physical changes) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | PP | G1 | G2 | G3 | G4 | G5 | G6 | G7 | G8 | G9 | G10 | G11 | G12 |
| SC807CB | b) Energy transformation and transfer (e.g., forms of energy, energy conservation, heat, temperature, equilibrium) | <input type="radio"/> | <input checked="" 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"/> | |
| SC807CC | c) Basic properties/behaviors of light (reflection, refraction, color, shadows, simple ray diagrams) | <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"/> | |
| SC807CD | d) Basic properties/behaviors of sound (vibrations that produce sound, transmission through media, loudness, pitch) | <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"/> | |
| SC807CE | e) Electric circuits (e.g., electrical conductors/insulators and the flow of electricity in series/parallel circuits) | <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"/> | |
| SC807CF | f) Properties and uses of permanent magnets and electromagnets | <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"/> | |
| SC807CG | g) Motion and forces (e.g., basic description of motion, common mechanical forces, properties of forces, effects of forces, simple machines, buoyancy, effects of density and pressure) | <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"/> | |

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S7. (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.

| | D. Earth Science | (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 one circle for each line. | PP | G1 | G2 | G3 | G4 | G5 | G6 | G7 | G8 | G9 | G10 |
| SC807DA | a) Earth's structure and physical features (e.g., Earth's crust, mantle, and core; composition and relative distribution of water; composition of Earth's atmosphere) | <input type="radio"/> | <input checked="" 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"/> |
| SC807DB | b) Earth's processes, cycles, and history (e.g., rock cycle, major geological events, formation of fossils and fossil fuels, water cycle, weather versus climate) | <input type="radio"/> | <input checked="" 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"/> |
| SC807DC | c) Earth's resources, their use, and conservation (e.g., renewable/nonrenewable resources, human use of land and water resources) | <input type="radio"/> | <input checked="" 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"/> |
| SC807DD | d) Earth in the Solar System and the universe (phenomena on Earth: seasons, eclipses, tides, phases of moon; members of the Solar System; physical features of Earth) | <input type="radio"/> | <input checked="" 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"/> |

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