

**TRENDS IN INTERNATIONAL MATHEMATICS AND
SCIENCE (TIMSS 2019) MAIN STUDY**

OMB # 1850-0695 v.14

APPENDIX C:

**TIMSS 2019 International Final Main Study Questionnaires,
TIMSS 2019 Draft U.S. Adaptations to International Questionnaires,
Summary of Changes from TIMSS 2019 International Field Test
Questionnaires to International Main Study Questionnaires**

Submitted by:
National Center for Education Statistics (NCES)
Institute of Education Sciences (IES)
U.S. Department of Education
Washington, DC

September 2018

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**TRENDS IN INTERNATIONAL MATHEMATICS AND
SCIENCE (TIMSS 2019) MAIN STUDY**

OMB # 1850-0695 v.14

**APPENDIX C.1:
TIMSS 2019 International Final Main Study Questionnaires**

Submitted by:
National Center for Education Statistics (NCES)
Institute of Education Sciences (IES)
U.S. Department of Education
Washington, DC

September 2018

APPENDIX C.1: TIMSS 2019 International Final Main Study Questionnaires

The final international versions of the TIMSS 2019 main study questionnaires have been made available and are included in this appendix. The final versions of the TIMSS 2019 main study instruments, including finalized U.S. adaptations, will be submitted to OMB as a change request in Fall 2018 after approval is received from the IEA (International Association for the Evaluation of Educational Achievement).

The following statement will appear on the login page for eTIMSS, MyTIMSS, and the bottom of the front cover of each printed questionnaire (the phrase “*search existing data resources, gather the data needed*” will not be included on the student questionnaire):

The National Center for Education Statistics (NCES), within the U.S. Department of Education, conducts TIMSS in the United States as authorized by the Education Sciences Reform Act of 2002 (ESRA 2002, 20 U.S.C. §9543). All of the information you provide may be used only for statistical purposes and may not be disclosed, or used, in identifiable form for any other purpose except as required by law (20 U.S.C. §9573 and 6 U.S.C. §151).

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless such collection displays a valid OMB control number. The valid OMB control number for this voluntary information collection is 1850-0695. The time required to complete this information collection is estimated to average [XX] minutes per [*respondent type*], including the time to review instructions [, *search existing data resources, gather the data needed,*] and complete and review the information collection. If you have any comments or concerns regarding the accuracy of the time estimate(s), suggestions for improving the form, or questions about the status of your individual submission of this form, write directly to: Trends in Mathematics and Science Study (TIMSS), National Center for Education Statistics, Potomac Center Plaza, 550 12th Street, SW, 4th floor, Washington, DC 20202.

OMB No. 1850-0695, Approval Expires xx/xx/2021.

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Identification Label

TRENDS IN INTERNATIONAL MATHEMATICS AND SCIENCE STUDY

School Questionnaire

<Grade 4>

<TIMSS National Research Center Name>

<Address>

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.

School Enrollment and Characteristics

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.

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?

Check **one** circle for each line.

	0 to 10%	11 to 25%	26 to 50%	More than 50%
a) Come from economically disadvantaged homes -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) Come from economically affluent homes -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

4

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

Check **one** circle only.

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

5

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

Check **one** circle only.

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

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

Check **one** circle only.

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

Instructional Time

6

For the <fourth grade> students in your school:

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

_____ days

Write in the number.

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.

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

7 _____

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

_____ computers

Write in the number.

8 _____

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

Check **one** circle only.

Yes ---

No ---

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

Check **one** circle only.

Yes ---

No ---

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?

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)?

Check **one** circle only.

2,000 books or fewer ---

More than 2,000 books ---

11 _____

Does your school have classroom libraries?

Check **one** circle only.

Yes ---

No ---

12 _____

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

Check **one** circle only.

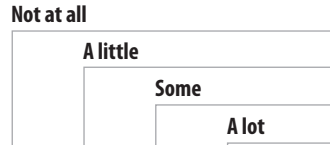
Yes ---

No ---

13

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

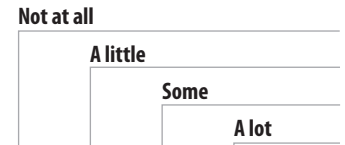
Check **one** circle for each line.



A. General School Resources

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

Check **one** circle for each line.



B. Resources for Mathematics Instruction

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

C. Resources for Science Instruction

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

School Emphasis on Academic Success

School Discipline and Safety

14

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

Check **one** circle for each line.

	Very high	High	Medium	Low	Very low
a) Teachers' understanding of the school's curricular goals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) Teachers' degree of success in implementing the school's curriculum	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) Teachers' expectations for student achievement	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) Teachers' ability to inspire students	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) Parental involvement in school activities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f) Parental commitment to ensure that students are ready to learn	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g) Parental expectations for student achievement	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h) Parental support for student achievement	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
i) Students' desire to do well in school	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
j) Students' ability to reach school's academic goals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
k) Students' respect for classmates who excel academically	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

15

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

Check **one** circle for each line.

	Not a problem	Minor problem	Moderate problem	Serious problem
a) Arriving late at school	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) Absenteeism (i.e., unjustified absences)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) Classroom disturbance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) Cheating	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) Profanity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f) Vandalism	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g) Theft	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h) Intimidation or verbal abuse among students (including texting, emailing, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
i) Physical fights among students	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
j) Intimidation or verbal abuse of teachers or staff (including texting, emailing, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

16

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

Check **one** circle for each line.

	Not a problem	Minor problem	Moderate problem	Serious problem
a) Arriving late or leaving early	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) Absenteeism	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

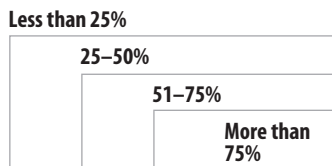
School Readiness

Principal Experience and Education

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.



- a) Recognize most of the letters of the alphabet -----
- b) Read some words -----
- c) Read sentences -----
- d) Write letters of the alphabet --
- e) Write their names -----
- f) Write words other than their names -----
- g) Count up to 100 or higher -----
- h) Recognize written numbers from 1-10 -----
- i) Recognize written numbers higher than 10 -----
- j) Write numbers from 1-10 -----
- k) Do simple addition -----
- l) Do simple subtraction -----

18

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

_____ 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?

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

20

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

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.

- a) <Certificate or license> -----
- b) <Master's or equivalent level—ISCED Level 7> -----
- 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.



BOSTON
COLLEGE

timss.bc.edu

<Grade 4>



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International Association
for the Evaluation of
Educational Achievement



Identification Label

TRENDS IN INTERNATIONAL MATHEMATICS AND SCIENCE STUDY

School Questionnaire

<Grade 8>

<TIMSS National Research Center Name>

<Address>

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

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

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.

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.

	0 to 10%	11 to 25%	26 to 50%	More than 50%
a) Come from economically disadvantaged homes -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) Come from economically affluent homes -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

4

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

Check **one** circle only.

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

5

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

Check **one** circle only.

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

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

Check **one** circle only.

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

Instructional Time

6

For the <eighth grade> students in your school:

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

_____ days

Write in the number.

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.

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

7 _____

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

_____ computers
Write in the number.

8 _____

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

Check **one** circle only.

Yes ---
No ---

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

Check **one** circle only.

Yes ---
No ---

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?

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)?

Check **one** circle only.

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

11 _____

Does your school have classroom libraries?

Check **one** circle only.

Yes ---
No ---

12 _____

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

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.

A. General School Resources

Not at all A little Some A lot

a) Instructional materials (e.g., textbooks) ----- ○ — ○ — ○ — ○

b) Supplies (e.g., papers, pencils, materials) ----- ○ — ○ — ○ — ○

c) School buildings and grounds ----- ○ — ○ — ○ — ○

d) Heating/cooling and lighting systems ----- ○ — ○ — ○ — ○

e) Instructional space (e.g., classrooms) ----- ○ — ○ — ○ — ○

f) Technologically competent staff ----- ○ — ○ — ○ — ○

g) Audio-visual resources for delivery of instruction (e.g., interactive white boards, digital projectors) ----- ○ — ○ — ○ — ○

h) Computer technology for teaching and learning (e.g., computers or tablets for student use) ----- ○ — ○ — ○ — ○

i) Resources for students with disabilities ----- ○ — ○ — ○ — ○

Check **one** circle for each line.

B. Resources for Mathematics Instruction

Not at all A little Some A lot

a) Teachers with a specialization in mathematics ----- ○ — ○ — ○ — ○

b) Computer software/ applications for mathematics instruction ----- ○ — ○ — ○ — ○

c) Library resources relevant to mathematics instruction --- ○ — ○ — ○ — ○

d) Calculators for mathematics instruction ----- ○ — ○ — ○ — ○

e) Concrete objects or materials to help students understand quantities or procedures ----- ○ — ○ — ○ — ○

C. Resources for Science Instruction

a) Teachers with a specialization in science ----- ○ — ○ — ○ — ○

b) Computer software/ applications for science instruction ----- ○ — ○ — ○ — ○

c) Library resources relevant to science instruction ----- ○ — ○ — ○ — ○

d) Calculators for science instruction ----- ○ — ○ — ○ — ○

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.

	Very high	High	Medium	Low	Very low
a) Teachers' understanding of the school's curricular goals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) Teachers' degree of success in implementing the school's curriculum	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) Teachers' expectations for student achievement	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) Teachers' ability to inspire students	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) Parental involvement in school activities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f) Parental commitment to ensure that students are ready to learn	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g) Parental expectations for student achievement	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h) Parental support for student achievement	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
i) Students' desire to do well in school	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
j) Students' ability to reach school's academic goals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
k) Students' respect for classmates who excel academically	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

15

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

Check **one** circle for each line.

	Agree a lot	Agree a little	Disagree a little	Disagree a lot
a) The school provides students with information about career options in mathematics and science	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) The school has initiatives to promote student interest in mathematics and science (e.g., student clubs, competitions)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) The school promotes professional development for teachers of mathematics and science	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) The school provides extra lessons to help students excel in mathematics and science	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) The school provides special activities in mathematics and science for interested students	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f) The school has a specific goal to improve mathematics and science education	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g) The school encourages students to continue studying mathematics and science in the future	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h) Mathematics and science teachers in this school spend extra time working with students interested in mathematics and science	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

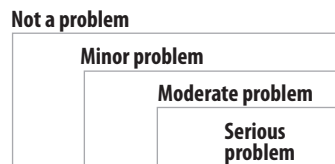
School Discipline and Safety

Principal Experience and Education

16

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

Check **one** circle for each line.

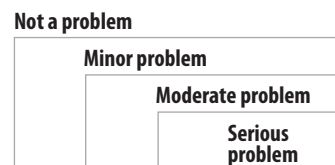


- a) Arriving late at school ----- ○ — ○ — ○ — ○
- b) Absenteeism (i.e., unjustified absences) ----- ○ — ○ — ○ — ○
- c) Classroom disturbance ----- ○ — ○ — ○ — ○
- d) Cheating ----- ○ — ○ — ○ — ○
- e) Profanity ----- ○ — ○ — ○ — ○
- f) Vandalism ----- ○ — ○ — ○ — ○
- g) Theft ----- ○ — ○ — ○ — ○
- h)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



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

18

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

_____ 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?

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

20

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

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.

- a) <Certificate or license> ----- ○ — ○
- b) <Master's or equivalent level—ISCED Level 7> ----- ○ — ○
- 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.



BOSTON
COLLEGE

timss.bc.edu

<Grade 8>



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International Association
for the Evaluation of
Educational Achievement



Identification Label

TRENDS IN INTERNATIONAL MATHEMATICS AND SCIENCE STUDY

Teacher Questionnaire

<Grade 4>

<TIMSS National Research Center Name>

<Address>

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?

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

G2

Are you female or male?

Check **one** circle only.

Female ---

Male ---

G3

How old are you?

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?

Check **one** circle only.

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

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

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

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

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

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

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

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

G5

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

Check **one** circle for each line.

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

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

Check **one** circle for each line.

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

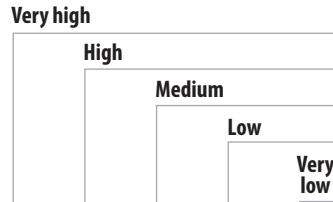
School Emphasis on Academic Success

School Environment

G6

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

Check **one** circle for each line.

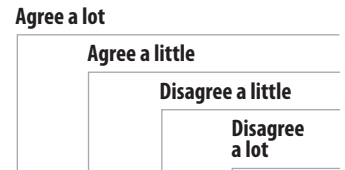


- a) Teachers' understanding of the school's curricular goals ----- ○ — ○ — ○ — ○ — ○
- b) Teachers' degree of success in implementing the school's curriculum ----- ○ — ○ — ○ — ○ — ○
- c) Teachers' expectations for student achievement ----- ○ — ○ — ○ — ○ — ○
- d) Teachers' ability to inspire students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

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.



- a) This school is located in a safe neighborhood ----- ○ — ○ — ○ — ○
- b) I feel safe at this school ----- ○ — ○ — ○ — ○
- c) This school's security policies and practices are sufficient ----- ○ — ○ — ○ — ○
- d) The students behave in an orderly manner ----- ○ — ○ — ○ — ○
- e) The students are respectful of the teachers ----- ○ — ○ — ○ — ○
- f) The students respect school property ----- ○ — ○ — ○ — ○
- g) This school has clear rules about student conduct ----- ○ — ○ — ○ — ○
- 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.

	Very often	Often	Sometimes	Never or almost never
a) I am content with my profession as a teacher -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) I find my work full of meaning and purpose -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) I am enthusiastic about my job -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) My work inspires me -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) I am proud of the work I do -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

G9

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
a) There are too many students in the classes -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) I have too much material to cover in class -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) I have too many teaching hours -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) I need more time to prepare for class -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) I need more time to assist individual students -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f) I feel too much pressure from parents -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g) I have difficulty keeping up with all of the changes to the curriculum -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h) I have too many administrative tasks -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

About Teaching the TIMSS Class

G10

A. How many students are in this class?

_____ students
Write in the number.

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

_____ <fourth grade> students
Write in the number.

G11

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

_____ 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

- a) Relate the lesson to students' daily lives ----- — — —
- b) Ask students to explain their answers ----- — — —
- c) Bring interesting materials to class ----- — — —
- d) Ask students to complete challenging exercises that require them to go beyond the instruction ----- — — —
- e) Encourage classroom discussions among students ----- — — —
- f) Link new content to students' prior knowledge ----- — — —
- g) Ask students to decide their own problem solving procedures ----- — — —
- 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) Students lacking prerequisite knowledge or skills -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) Students suffering from lack of basic nutrition -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) Students suffering from not enough sleep -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) Students absent from class -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) Disruptive students -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f) Uninterested students -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g) Students with mental, emotional, or psychological impairment -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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?

_____ 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 |
|---------------------------------------------------------------------------------|------------------------------|------------------------|-----------------------|-----------------------|
| a) Listen to me explain new mathematics content ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| b) Listen to me explain how to solve problems ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| c) Memorize rules, procedures, and facts ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| d) Practice procedures on their own ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 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"/> |
| 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"/> |
| g) Work in mixed ability groups -- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 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?

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?

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.

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

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

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.

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

A. Number

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

B. Measurement and Geometry

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

C. Data

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


Mathematics Homework for the TIMSS Class

Mathematics Assessment of the TIMSS Class

M6

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

Check **one** circle only.

- I do not assign mathematics homework --- 
 (Go to #M7)
- 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.)

Check **one** circle only.

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

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

Check **one** circle for each line.

- | | | | |
|------------------------------------------------------------|--------------------------------|-----------------------|------------------------------|
| | Always or almost always | Sometimes | Never or almost never |
| a) Correct assignments and give feedback to students ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| b) Discuss the homework in class ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| c) Monitor whether or not the homework was completed ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

M7

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

Check **one** circle for each line.

- | | | | |
|-----------------------------------------------------------|-----------------------|-----------------------|-----------------------|
| | A Lot | Some | None |
| a) Observing students as they work ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| b) Asking students to answer questions during class ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| c) Short, regular written assessments ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| d) Longer tests (e.g., unit tests or exams) ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| e) Long-term projects ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

M8

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

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?

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

Check **one** circle for each line.

Check **one** circle for each line.

	Yes		No	
a) Mathematics content -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) Mathematics pedagogy/ instruction -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) Mathematics curriculum --	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) Integrating technology into mathematics instruction -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) Improving students' critical thinking or problem solving skills -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f) Mathematics assessment -	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g) Addressing individual students' needs -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

M10

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

Check **one** circle only.

None ----

Less than 6 hours ----

6–15 hours ----

16–35 hours ----

More than 35 hours ----

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?

Check **one** circle only.

Yes ---

No ---

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

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

S2

In teaching science to 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

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

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.

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

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 |
|--------------------------------------|---------------------------|-----------------------|-----------------------|-----------------------|
| a) Whole class ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| b) Low-performing students ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| c) High-performing students ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 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

- a) Physical and behavioral characteristics of living things and major groups of living things (e.g., mammals, birds, insects, flowering plants) ----- — —
- b) Major body structures and their functions in humans, other animals, and plants ----- — —
- c) Life cycles of common plants and animals (e.g., flowering plants, butterflies, frogs) ----- — —
- d) Characteristics of plants and animals that are inherited ----- — —
- e) Interactions between organisms and their environments (e.g., physical features and behaviors that help living things survive in their environments) ----- — —
- f) Relationships in ecosystems (e.g., simple food chains, predator-prey relationships, competition) ----- — —
- g) Human health (transmission and prevention of diseases, everyday behaviors that promote good health) ----- — —

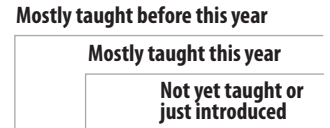
B. Physical Science

- a) States of matter (solid, liquid, gas) and their properties (volume, shape) ----- — —
- b) Classifying materials based on physical properties (e.g., weight/mass, volume, state of matter, conductivity of heat or electricity) ----- — —
- c) Mixtures, including methods for separating a mixture into its components (e.g., sifting, filtering, evaporation, using a magnet) ----- — —
- d) Properties of magnets (e.g., like poles repel and opposite poles attract, magnets can attract some objects) ----- — —
- e) Physical changes in everyday life (e.g., changes of state, dissolving) ----- — —
- f) Chemical changes in everyday life (e.g., decaying, burning, rusting, cooking) ----- — —
- g) Common sources of energy (e.g., the Sun, wind, oil) and uses of energy (heating and cooling homes, providing light) ----- — —
- h) Light and sound in everyday life (e.g., shadows and reflections, vibrating objects make sound) ----- — —
- i) Heat transfer (e.g., energy flows from a hot object to a colder object) ----- — —
- j) Electricity and simple electrical circuits (e.g., a circuit must be complete to work correctly) ----- — —
- k) Forces that cause objects to move (e.g., gravity, pushing/pulling) or change their motion (e.g., friction) ----- — —
- 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.



C. Earth Science

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

Science Homework for the TIMSS Class

Science Assessment of the TIMSS Class

S5

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

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.)

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

S6

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

Check **one** circle for each line.

- A Lot
 - Some
 - None
- a) Observing students as they work ----- --- ---
 - b) Asking students to answer questions during class ----- --- ---
 - c) Short, regular written assessments ----- --- ---
 - d) Longer tests (e.g., unit tests or exams) ----- --- ---
 - e) Long-term projects ----- --- ---

S7

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

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.

	Yes	No	Yes	No
a) Science content -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) Science pedagogy/ instruction -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) Science curriculum -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) Integrating technology into science instruction ---	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) Improving students' critical thinking or problem solving skills -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f) Science assessment -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g) Addressing individual students' needs -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h) Integrating science with other subjects (e.g., mathematics, technology) -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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?

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.



BOSTON
COLLEGE

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<Grade 4>



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for the Evaluation of
Educational Achievement



Identification Label

TRENDS IN INTERNATIONAL MATHEMATICS AND SCIENCE STUDY

Teacher Questionnaire Mathematics

<Grade 4>

<TIMSS National Research Center Name>

<Address>

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?

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

G2

Are you female or male?

Check **one** circle only.

Female ---

Male ---

G3

How old are you?

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?

Check **one** circle only.

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

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

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

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

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

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

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

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

G5

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

Check **one** circle for each line.

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

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

Check **one** circle for each line.

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

School Emphasis on Academic Success

School Environment

G6

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

Check **one** circle for each line.

	Very high	High	Medium	Low	Very low
a) Teachers' understanding of the school's curricular goals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) Teachers' degree of success in implementing the school's curriculum	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) Teachers' expectations for student achievement	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) Teachers' ability to inspire students	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) Parental involvement in school activities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f) Parental commitment to ensure that students are ready to learn	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g) Parental expectations for student achievement	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h) Parental support for student achievement	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
i) Students' desire to do well in school	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
j) Students' ability to reach school's academic goals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
k) Students' respect for classmates who excel academically	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
l) Collaboration between school leadership (including master teachers) and teachers to plan instruction	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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.

	Agree a lot	Agree a little	Disagree a little	Disagree a lot
a) This school is located in a safe neighborhood	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) I feel safe at this school	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) This school's security policies and practices are sufficient	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) The students behave in an orderly manner	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) The students are respectful of the teachers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f) The students respect school property	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g) This school has clear rules about student conduct	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h) This school's rules are enforced in a fair and consistent manner	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

About Being a Teacher

G8

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
a) I am content with my profession as a teacher -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) I find my work full of meaning and purpose -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) I am enthusiastic about my job -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) My work inspires me -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) I am proud of the work I do -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

G9

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
a) There are too many students in the classes -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) I have too much material to cover in class -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) I have too many teaching hours -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) I need more time to prepare for class -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) I need more time to assist individual students -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f) I feel too much pressure from parents -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g) I have difficulty keeping up with all of the changes to the curriculum -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h) I have too many administrative tasks -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

About Teaching the TIMSS Class

G10

A. How many students are in this class?

_____ students
Write in the number.

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

_____ <fourth grade> students
Write in the number.

G11

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

_____ 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

- a) Relate the lesson to students' daily lives ----- — — —
- b) Ask students to explain their answers ----- — — —
- c) Bring interesting materials to class ----- — — —
- d) Ask students to complete challenging exercises that require them to go beyond the instruction ----- — — —
- e) Encourage classroom discussions among students ----- — — —
- f) Link new content to students' prior knowledge ----- — — —
- g) Ask students to decide their own problem solving procedures ----- — — —
- 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) Students lacking prerequisite knowledge or skills -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) Students suffering from lack of basic nutrition -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) Students suffering from not enough sleep -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) Students absent from class -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) Disruptive students -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f) Uninterested students -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g) Students with mental, emotional, or psychological impairment -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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?

_____ 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

- a) Listen to me explain new mathematics content ----- — — —
- b) Listen to me explain how to solve problems ----- — — —
- c) Memorize rules, procedures, and facts ----- — — —
- d) Practice procedures on their own ----- — — —
- e) Apply what they have learned to new problem situations on their own ----- — — —
- f) Work problems together in the whole class with direct guidance from me ----- — — —
- g) Work in mixed ability groups -- — — —
- h) Work in same ability groups -- — — —

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?

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?

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.

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

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

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.

	Mostly taught before this year	Mostly taught this year	Not yet taught or just introduced
A. Number			
a) Concepts of whole numbers, including place value and ordering -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) Adding, subtracting, multiplying, and dividing with whole numbers -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) Concepts of multiples and factors; odd and even numbers -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) Number sentences (finding the missing number, representing problem situations with number sentences) -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) Number patterns (extending number patterns and finding missing terms) -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f) Concepts of fractions, including representing, comparing and ordering, adding and subtracting simple fractions -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g) Concepts of decimals, including place value and ordering, adding and subtracting with decimals -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
B. Measurement and Geometry			
a) Solving problems involving length, including measuring and estimating -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) Solving problems involving mass, volume, and time -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) Finding and estimating perimeter, area, and volume -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) Parallel and perpendicular lines -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) Comparing and drawing angles -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f) Elementary properties of common geometric shapes -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g) Three-dimensional shapes, including relationships with their two-dimensional representations -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
C. Data			
a) Reading and interpreting data from tables, pictographs, bar graphs, line graphs, and pie charts -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) Organizing and representing data to help answer questions -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) Drawing conclusions from data displays -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Mathematics Homework for the TIMSS Class

Mathematics Assessment of the TIMSS Class

M6

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

Check **one** circle only.

- I do not assign mathematics homework --- (Go to #M7)
- 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.)

Check **one** circle only.

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

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

Check **one** circle for each line.

- | | | | |
|------------------------------------------------------------|--------------------------------|-----------------------|------------------------------|
| | Always or almost always | Sometimes | Never or almost never |
| a) Correct assignments and give feedback to students ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| b) Discuss the homework in class ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| c) Monitor whether or not the homework was completed ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

M7

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

Check **one** circle for each line.

- | | | | |
|-----------------------------------------------------------|-----------------------|-----------------------|-----------------------|
| | A Lot | Some | None |
| a) Observing students as they work ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| b) Asking students to answer questions during class ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| c) Short, regular written assessments ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| d) Longer tests (e.g., unit tests or exams) ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| e) Long-term projects ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

M8

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

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.

- | | Yes | No | Yes | No |
|-------------------------------------------------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| a) Mathematics content----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| b) Mathematics pedagogy/
instruction----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| c) Mathematics curriculum-- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| d) Integrating technology
into mathematics
instruction----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| e) Improving students'
critical thinking or
problem solving skills----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| f) Mathematics assessment - | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| g) Addressing individual
students' needs----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

M10

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

Check **one** circle only.

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

Thank You

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



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TRENDS IN INTERNATIONAL MATHEMATICS AND SCIENCE STUDY

Teacher Questionnaire Science

<Grade 4>

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<Address>

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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?

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

G2

Are you female or male?

Check **one** circle only.

Female ---

Male ---

G3

How old are you?

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?

Check **one** circle only.

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

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

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

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

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

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

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

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

G5

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

Check **one** circle for each line.

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

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

Check **one** circle for each line.

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

School Emphasis on Academic Success

School Environment

G6

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

Check **one** circle for each line.

	Very high	High	Medium	Low	Very low
a) Teachers' understanding of the school's curricular goals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) Teachers' degree of success in implementing the school's curriculum	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) Teachers' expectations for student achievement	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) Teachers' ability to inspire students	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) Parental involvement in school activities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f) Parental commitment to ensure that students are ready to learn	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g) Parental expectations for student achievement	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h) Parental support for student achievement	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
i) Students' desire to do well in school	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
j) Students' ability to reach school's academic goals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
k) Students' respect for classmates who excel academically	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
l) Collaboration between school leadership (including master teachers) and teachers to plan instruction	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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.

	Agree a lot	Agree a little	Disagree a little	Disagree a lot
a) This school is located in a safe neighborhood	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) I feel safe at this school	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) This school's security policies and practices are sufficient	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) The students behave in an orderly manner	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) The students are respectful of the teachers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f) The students respect school property	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g) This school has clear rules about student conduct	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h) This school's rules are enforced in a fair and consistent manner	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

About Being a Teacher

G8

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
a) I am content with my profession as a teacher -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) I find my work full of meaning and purpose -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) I am enthusiastic about my job -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) My work inspires me -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) I am proud of the work I do -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

G9

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
a) There are too many students in the classes -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) I have too much material to cover in class -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) I have too many teaching hours -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) I need more time to prepare for class -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) I need more time to assist individual students -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f) I feel too much pressure from parents -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g) I have difficulty keeping up with all of the changes to the curriculum -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h) I have too many administrative tasks -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

About Teaching the TIMSS Class

G10

A. How many students are in this class?

_____ students
Write in the number.

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

_____ <fourth grade> students
Write in the number.

G11

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

_____ 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

- a) Relate the lesson to students' daily lives ----- — — —
- b) Ask students to explain their answers ----- — — —
- c) Bring interesting materials to class ----- — — —
- d) Ask students to complete challenging exercises that require them to go beyond the instruction ----- — — —
- e) Encourage classroom discussions among students ----- — — —
- f) Link new content to students' prior knowledge ----- — — —
- g) Ask students to decide their own problem solving procedures ----- — — —
- 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) Students lacking prerequisite knowledge or skills -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) Students suffering from lack of basic nutrition -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) Students suffering from not enough sleep -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) Students absent from class -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) Disruptive students -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f) Uninterested students -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g) Students with mental, emotional, or psychological impairment -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h) Students with difficulties understanding the language of instruction -----	<input type="radio"/>	<input type="radio"/>	<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?

Check **one** circle only.

Yes ---

No ---

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

_____ minutes per week

Write in the number of minutes per week.

Please convert the number of hours into minutes.

S2

In teaching science to 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

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

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.

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

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 |
|--------------------------------------|---------------------------|-----------------------|-----------------------|-----------------------|
| a) Whole class ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| b) Low-performing students ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| c) High-performing students ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 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			
a) Physical and behavioral characteristics of living things and major groups of living things (e.g., mammals, birds, insects, flowering plants)-----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) Major body structures and their functions in humans, other animals, and plants -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) Life cycles of common plants and animals (e.g., flowering plants, butterflies, frogs)-----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) Characteristics of plants and animals that are inherited -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) Interactions between organisms and their environments (e.g., physical features and behaviors that help living things survive in their environments) -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f) Relationships in ecosystems (e.g., simple food chains, predator-prey relationships, competition)-----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g) Human health (transmission and prevention of diseases, everyday behaviors that promote good health)-----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
B. Physical Science			
a) States of matter (solid, liquid, gas) and their properties (volume, shape)-----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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"/>
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"/>
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"/>
e) Physical changes in everyday life (e.g., changes of state, dissolving)-----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f) Chemical changes in everyday life (e.g., decaying, burning, rusting, cooking) -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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"/>
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"/>
i) Heat transfer (e.g., energy flows from a hot object to a colder object) -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
j) Electricity and simple electrical circuits (e.g., a circuit must be complete to work correctly) -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
k) Forces that cause objects to move (e.g., gravity, pushing/pulling) or change their motion (e.g., friction) -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
l) Simple machines (e.g., levers, pulleys, wheels, ramps) that help make motion easier -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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.




C. Earth Science

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

S5

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

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.)

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.



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

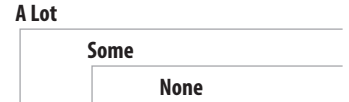
b) Discuss the homework in class ----- — —

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

S6

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

Check **one** circle for each line.



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

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

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

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

e) Long-term projects ----- — —

S7

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

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.

	Yes		No	
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
a) Science content	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) Science pedagogy/ instruction	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) Science curriculum	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) Integrating technology into science instruction	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) Improving students' critical thinking or problem solving skills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f) Science assessment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g) Addressing individual students' needs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h) Integrating science with other subjects (e.g., mathematics, technology)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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?

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.



BOSTON
COLLEGE

timss.bc.edu

<Grade 4>



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International Association
for the Evaluation of
Educational Achievement



Identification Label

TRENDS IN INTERNATIONAL MATHEMATICS AND SCIENCE STUDY

Teacher Questionnaire Mathematics

<Grade 8>

<TIMSS National Research Center Name>

<Address>

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?

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

2

Are you female or male?

Check **one** circle only.

Female ---

Male ---

3

How old are you?

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?

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
a) Mathematics -----	<input type="radio"/>	<input type="radio"/>
b) Biology -----	<input type="radio"/>	<input type="radio"/>
c) Physics -----	<input type="radio"/>	<input type="radio"/>
d) Chemistry -----	<input type="radio"/>	<input type="radio"/>
e) <Earth Science> -----	<input type="radio"/>	<input type="radio"/>
f) Education—Mathematics -----	<input type="radio"/>	<input type="radio"/>
g) Education—Science -----	<input type="radio"/>	<input type="radio"/>
h) Education—General -----	<input type="radio"/>	<input type="radio"/>
i) Other -----	<input type="radio"/>	<input type="radio"/>

School Emphasis on Academic Success

School Environment

6

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

Check **one** circle for each line.

	Very high	High	Medium	Low	Very low
a) Teachers' understanding of the school's curricular goals -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) Teachers' degree of success in implementing the school's curriculum -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) Teachers' expectations for student achievement -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) Teachers' ability to inspire students -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) Parental involvement in school activities -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f) Parental commitment to ensure that students are ready to learn -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g) Parental expectations for student achievement -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h) Parental support for student achievement -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
i) Students' desire to do well in school -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
j) Students' ability to reach school's academic goals -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
k) Students' respect for classmates who excel academically -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
l) Collaboration between school leadership (including master teachers) and teachers to plan instruction -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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.

	Agree a lot	Agree a little	Disagree a little	Disagree a lot
a) This school is located in a safe neighborhood -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) I feel safe at this school -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) This school's security policies and practices are sufficient -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) The students behave in an orderly manner -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) The students are respectful of the teachers -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f) The students respect school property -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g) This school has clear rules about student conduct -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h) This school's rules are enforced in a fair and consistent manner -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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
a) I am content with my profession as a teacher -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) I find my work full of meaning and purpose -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) I am enthusiastic about my job -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) My work inspires me -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) I am proud of the work I do -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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
a) There are too many students in the classes -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) I have too much material to cover in class -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) I have too many teaching hours -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) I need more time to prepare for class -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) I need more time to assist individual students -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f) I feel too much pressure from parents -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g) I have difficulty keeping up with all of the changes to the curriculum -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h) I have too many administrative tasks -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

About Teaching the TIMSS Class

10

How many students are in this class?

_____ students
Write in the number.

11

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

_____ 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

- a) Relate the lesson to students' daily lives ----- — — —
- b) Ask students to explain their answers ----- — — —
- c) Ask students to complete challenging exercises that require them to go beyond the instruction ----- — — —
- d) Encourage classroom discussions among students ----- — — —
- e) Link new content to students' prior knowledge ----- — — —
- f) Ask students to decide their own problem solving procedures ----- — — —
- 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

- a) Students lacking prerequisite knowledge or skills ----- — —
- b) Students suffering from lack of basic nutrition ----- — —
- c) Students suffering from not enough sleep ----- — —
- d) Students absent from class ----- — —
- e) Disruptive students ----- — —
- f) Uninterested students ----- — —
- g) Students with mental, emotional, or psychological impairment ----- — —
- 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?

_____ 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
- a) Listen to me explain new mathematics content ----- — — —
- b) Listen to me explain how to solve problems ----- — — —
- c) Memorize rules, procedures, and facts ----- — — —
- d) Practice procedures on their own ----- — — —
- e) Apply what they have learned to new problem situations on their own ----- — — —
- f) Work problems together in the whole class with direct guidance from me ----- — — —
- g) Work in mixed ability groups -- — — —
- h) Work in same ability groups -- — — —

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?

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?

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.

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

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

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

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

B. Algebra

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

C. Geometry

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

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 ----- — —
- d) Calculating and interpreting statistics summarizing data distributions ----- — —
- e) Theoretical and empirical probability of simple events ----- — —
- f) Theoretical and empirical probability of compound events ----- — —

Mathematics Homework for the TIMSS Class

Mathematics Assessment of the TIMSS Class

19

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

Check **one** circle only.

- I do not assign mathematics homework --- (Go to #20)
- 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.)

Check **one** circle only.

- 15 minutes or less ---
- 16–30 minutes ---
- 31–60 minutes ---
- 61–90 minutes ---
- More than 90 minutes ---

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

Check **one** circle for each line.

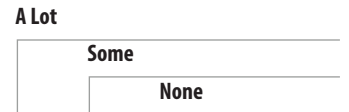


- a) Correct assignments and give feedback to students -----
- b) Have students correct their own homework -----
- c) Discuss the homework in class -----
- d) Monitor whether or not the homework was completed -----
- e) Use the homework to contribute towards students' grades or marks -----

20

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

Check **one** circle for each line.



- a) Observing students as they work -----
- b) Asking students to answer questions during class -----
- c) Short, regular written assessments -----
- d) Longer tests (e.g., unit tests or exams) -----
- e) Long-term projects -----

21

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

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.

	Yes	No	Yes	No
a) Mathematics content -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) Mathematics pedagogy/ instruction-----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) Mathematics curriculum--	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) Integrating technology into mathematics instruction-----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) Improving students' critical thinking or problem solving skills-----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f) Mathematics assessment -	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g) Addressing individual students' needs-----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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.



BOSTON
COLLEGE

timss.bc.edu

<Grade 8>



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International Association
for the Evaluation of
Educational Achievement



Identification Label

TRENDS IN INTERNATIONAL MATHEMATICS AND SCIENCE STUDY

Teacher Questionnaire Science

<Grade 8>

<TIMSS National Research Center Name>

<Address>

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?

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

2

Are you female or male?

Check **one** circle only.

- Female ---
Male ---

3

How old are you?

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?

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 |
|--------------------------------|-----------------------|-----------------------|
| a) Mathematics ----- | <input type="radio"/> | <input type="radio"/> |
| b) Biology ----- | <input type="radio"/> | <input type="radio"/> |
| c) Physics ----- | <input type="radio"/> | <input type="radio"/> |
| d) Chemistry ----- | <input type="radio"/> | <input type="radio"/> |
| e) <Earth Science> ----- | <input type="radio"/> | <input type="radio"/> |
| f) Education–Mathematics ----- | <input type="radio"/> | <input type="radio"/> |
| g) Education–Science ----- | <input type="radio"/> | <input type="radio"/> |
| h) Education–General ----- | <input type="radio"/> | <input type="radio"/> |
| i) Other ----- | <input type="radio"/> | <input type="radio"/> |

School Emphasis on Academic Success

School Environment

6

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

Check **one** circle for each line.

	Very high _____ High _____ Medium _____ Low _____ Very low _____
a) Teachers' understanding of the school's curricular goals -----	○ — ○ — ○ — ○ — ○
b) Teachers' degree of success in implementing the school's curriculum -----	○ — ○ — ○ — ○ — ○
c) Teachers' expectations for student achievement -----	○ — ○ — ○ — ○ — ○
d) Teachers' ability to inspire students -----	○ — ○ — ○ — ○ — ○
e) Parental involvement in school activities -----	○ — ○ — ○ — ○ — ○
f) Parental commitment to ensure that students are ready to learn -----	○ — ○ — ○ — ○ — ○
g) Parental expectations for student achievement -----	○ — ○ — ○ — ○ — ○
h) Parental support for student achievement -----	○ — ○ — ○ — ○ — ○
i) Students' desire to do well in school -----	○ — ○ — ○ — ○ — ○
j) Students' ability to reach school's academic goals -----	○ — ○ — ○ — ○ — ○
k) Students' respect for classmates who excel academically -----	○ — ○ — ○ — ○ — ○
l) Collaboration between school leadership (including master teachers) and teachers to plan instruction -----	○ — ○ — ○ — ○ — ○

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.

	Agree a lot _____ Agree a little _____ Disagree a little _____ Disagree a lot _____
a) This school is located in a safe neighborhood -----	○ — ○ — ○ — ○
b) I feel safe at this school -----	○ — ○ — ○ — ○
c) This school's security policies and practices are sufficient -----	○ — ○ — ○ — ○
d) The students behave in an orderly manner -----	○ — ○ — ○ — ○
e) The students are respectful of the teachers -----	○ — ○ — ○ — ○
f) The students respect school property -----	○ — ○ — ○ — ○
g) This school has clear rules about student conduct -----	○ — ○ — ○ — ○
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
a) I am content with my profession as a teacher -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) I find my work full of meaning and purpose -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) I am enthusiastic about my job -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) My work inspires me -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) I am proud of the work I do -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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
a) There are too many students in the classes -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) I have too much material to cover in class -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) I have too many teaching hours -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) I need more time to prepare for class -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) I need more time to assist individual students -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f) I feel too much pressure from parents -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g) I have difficulty keeping up with all of the changes to the curriculum -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h) I have too many administrative tasks -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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

10

How many students are in this class?

_____ students
Write in the number.

11

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

_____ 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

- a) Relate the lesson to students' daily lives ----- — — —
- b) Ask students to explain their answers ----- — — —
- c) Ask students to complete challenging exercises that require them to go beyond the instruction ----- — — —
- d) Encourage classroom discussions among students ----- — — —
- e) Link new content to students' prior knowledge ---- — — —
- f) Ask students to decide their own problem solving procedures ----- — — —
- 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

- a) Students lacking prerequisite knowledge or skills ----- — —
- b) Students suffering from lack of basic nutrition ----- — —
- c) Students suffering from not enough sleep ----- — —
- d) Students absent from class ---- — —
- e) Disruptive students ----- — —
- f) Uninterested students ----- — —
- g) Students with mental, emotional, or psychological impairment ----- — —
- 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?

_____ 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
a) Listen to me explain new science content -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) Observe natural phenomena and describe what they see ---	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) Watch me demonstrate an experiment or investigation -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) Design or plan experiments or investigations -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) Conduct experiments or investigations -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f) Present data from experiments or investigations -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g) Interpret data from experiments or investigations -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h) Use evidence from experiments or investigations to support conclusions -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
i) Read their textbooks or other resource materials -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
j) Have students memorize facts and principles -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
k) Use scientific formulas and laws to solve routine problems -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
l) Do field work outside of class--	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
m) Work in mixed ability groups --	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
n) Work in same ability groups ---	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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?

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.

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

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

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.

	Mostly taught before this year		
	Mostly taught this year		Not yet taught or just introduced
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"/>
b) Major organs and organ systems in humans and other organisms (structure/function, life processes)-----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) Cells, their structure and functions, including respiration and photosynthesis as cellular processes-----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) Life cycles, sexual reproduction, and heredity (inherited versus acquired/learned characteristics) -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) Role of variation and adaptation in survival/extinction of species (including fossil evidence) -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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)-----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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 -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
B. Chemistry			
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"/>
b) The periodic table as an organizing principle for the known elements-----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) Physical and chemical properties of matter -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) Mixtures and solutions (e.g., solvent, solute, concentration/dilution) -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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"/>
f) Characteristics of chemical reactions (e.g., transformation of reactants, evidence of chemical change) -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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"/>
h) The role of electrons in chemical bonds -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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

- 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) ----- — —
- b) Energy transformation and transfer (e.g., forms of energy, energy conservation, heat temperature, equilibrium) ----- — —
- c) Basic properties/behaviors of light (reflection, refraction, color, shadows, simple ray diagrams) ----- — —
- d) Basic properties/behaviors of sound (vibrations that produce sound, transmission through media, loudness, pitch) ----- — —
- e) Electric circuits (e.g., electrical conductors/insulators and the flow of electricity in series/parallel circuits) ----- — —
- f) Properties and uses of permanent magnets and electromagnets ----- — —
- 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

- 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) ----- — —
- 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) ----- — —
- c) Earth’s resources, their use, and conservation (e.g., renewable/nonrenewable resources, human use of land and water resources) ----- — —
- 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>

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

18

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

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.)

Check **one** circle only.

- 15 minutes or less ---
- 16–30 minutes ---
- 31–60 minutes ---
- 61–90 minutes ---
- More than 90 minutes ---

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

Check **one** circle for each line.

- | | Always or almost always | Sometimes | Never or almost never |
|---------------------------------------------------------------------------|-------------------------|-----------------------|-----------------------|
| a) Correct assignments and give feedback to students ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| b) Have students correct their own homework ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| c) Discuss the homework in class ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| d) Monitor whether or not the homework was completed ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| e) Use the homework to contribute towards students' grades or marks ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

19

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

Check **one** circle for each line.

- | | A Lot | Some | None |
|-----------------------------------------------------------|-----------------------|-----------------------|-----------------------|
| a) Observing students as they work ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| b) Asking students to answer questions during class ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| c) Short, regular written assessments ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| d) Longer tests (e.g., unit tests or exams) ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| e) Long-term projects ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

20

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

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.

	Yes	No	Yes	No
a) Science content -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) Science pedagogy/ instruction -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) Science curriculum -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) Integrating technology into science instruction ---	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) Improving students' critical thinking or problem solving skills -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f) Science assessment -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g) Addressing individual students' needs -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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?

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.



BOSTON
COLLEGE

timss.bc.edu

<Grade 8>



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International Association
for the Evaluation of
Educational Achievement



Identification Label

TRENDS IN INTERNATIONAL MATHEMATICS AND SCIENCE STUDY

Student Questionnaire

<Grade 4>

<TIMSS National Research Center Name>

<Address>

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

Directions

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

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

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

Example 1

Do you go to school?

*Fill **one** circle only.*

Yes --

No --

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

Example 2

How often do you do these things?

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

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

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

Example 3

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

Fill **one** circle for each line.

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

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

About you

G1 _____

Are you a girl or a boy?

Fill one circle only.

Girl --

Boy --

G2 _____

When were you born?

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

a) Month

January --

February --

March --

April --

May --

June --

July --

August --

September --

October --

November --

December --

b) Year

2006 --

2007 --

2008 --

2009 --

2010 --

2011 --

2012 --

Other --

G3

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

Fill one circle only.

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

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

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

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

G4

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

Fill one circle only.

None or very few (0–10 books) --

This shows 10 books



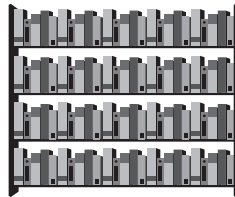
Enough to fill one shelf (11–25 books) --

This shows 25 books



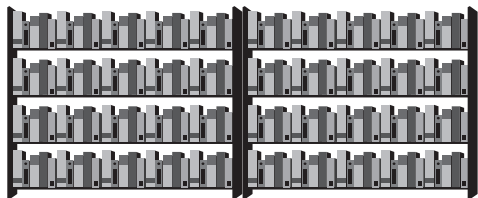
Enough to fill one bookcase
(26–100 books) --

This shows 100 books



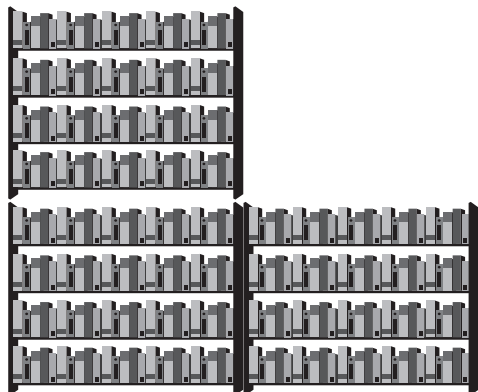
Enough to fill two bookcases
(101–200 books) --

This shows 200 books



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

This shows more than 200 books



G5

Do you have any of these things at your home?

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

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

Fill one circle only.

Yes --

No --

I don't know --

Not applicable --

B. <Parent/Guardian B>

Fill one circle only.

Yes --

No --

I don't know --

Not applicable --

G7

Were you born in <country>?

Fill one circle only.

Yes --

No --

G8**About how often are you absent from school?***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.*

- | | Every
day | Almost
every day | Sometimes | Never |
|------------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| a) I feel tired | <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"/> |

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
a) I like being in school	○	○	○	○
b) I feel safe when I am at school	○	○	○	○
c) I feel like I belong at this school	○	○	○	○
d) Teachers at my school are fair to me	○	○	○	○
e) I am proud to go to this school	○	○	○	○

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

*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
a) I enjoy learning mathematics -----	○	○	○	○
b) I wish I did not have to study mathematics -----	○	○	○	○
c) Mathematics is boring -----	○	○	○	○
d) I learn many interesting things in mathematics -----	○	○	○	○
e) I like mathematics -----	○	○	○	○
f) I like any schoolwork that involves numbers -----	○	○	○	○
g) I like to solve mathematics problems -----	○	○	○	○
h) I look forward to mathematics lessons -----	○	○	○	○
i) Mathematics is one of my favorite subjects -----	○	○	○	○

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 |
|-------------------------------------------------------------------|----------------|-------------------|----------------------|-------------------|
| a) I know what my teacher expects me to do | ↓
○ | ↓
○ | ↓
○ | ↓
○ |
| b) My teacher is easy to understand -- | ○ | ○ | ○ | ○ |
| c) My teacher has clear answers to my questions | ○ | ○ | ○ | ○ |
| d) My teacher is good at explaining mathematics | ○ | ○ | ○ | ○ |
| e) My teacher does a variety of things to help us learn | ○ | ○ | ○ | ○ |
| f) My teacher explains a topic again when we don't understand --- | ○ | ○ | ○ | ○ |

MS4**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
	↓	↓	↓	↓
a) Students don't listen to what the teacher says	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) There is disruptive noise	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) It is too disorderly for students to work well	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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"/>
e) Students interrupt the teacher	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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"/>

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 |
|------------------------------------------------------------------------|----------------|-------------------|----------------------|-------------------|
| a) I usually do well in mathematics --- | ○ | ○ | ○ | ○ |
| b) Mathematics is harder for me
than for many of my classmates ---- | ○ | ○ | ○ | ○ |
| c) I am just not good at mathematics - | ○ | ○ | ○ | ○ |
| d) I learn things quickly
in mathematics ----- | ○ | ○ | ○ | ○ |
| e) Mathematics makes me nervous ---- | ○ | ○ | ○ | ○ |
| f) I am good at working out difficult
mathematics problems ----- | ○ | ○ | ○ | ○ |
| g) My teacher tells me I am good
at mathematics ----- | ○ | ○ | ○ | ○ |
| h) Mathematics is harder for me
than any other subject ----- | ○ | ○ | ○ | ○ |
| i) Mathematics makes me confused--- | ○ | ○ | ○ | ○ |

Science in school

MS6

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

*Fill **one** circle only.*

At least once a week --

Once or twice a month --

A few times a year --

Never --

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
a) I enjoy learning science	○	○	○	○
b) I wish I did not have to study science	○	○	○	○
c) Science is boring	○	○	○	○
d) I learn many interesting things in science	○	○	○	○
e) I like science	○	○	○	○
f) I look forward to learning science in school	○	○	○	○
g) Science teaches me how things in the world work	○	○	○	○
h) I like to do science experiments	○	○	○	○
i) Science is one of my favorite subjects	○	○	○	○

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
a) I know what my teacher expects me to do	○	○	○	○
b) My teacher is easy to understand --	○	○	○	○
c) My teacher has clear answers to my questions	○	○	○	○
d) My teacher is good at explaining science	○	○	○	○
e) My teacher does a variety of things to help us learn	○	○	○	○
f) My teacher explains a topic again when we don't understand ---	○	○	○	○

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
a) I usually do well in science	↓ ○	○	○	○
b) Science is harder for me than for many of my classmates ----	○	○	○	○
c) I am just not good at science	○	○	○	○
d) I learn things quickly in science	○	○	○	○
e) My teacher tells me I am good at science	○	○	○	○
f) Science is harder for me than any other subject	○	○	○	○
g) Science makes me confused	○	○	○	○



Thank You!

Thank you for filling out the questionnaire!



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<Grade 4>



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for the Evaluation of
Educational Achievement



Identification Label

TRENDS IN INTERNATIONAL MATHEMATICS AND SCIENCE STUDY

Student Questionnaire

<Grade 8>

<TIMSS National Research Center Name>

<Address>

Directions

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

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

Example 1

Do you go to school?

Fill one circle only.

Yes --

No --

Example 2

How often do you do these things?

Fill one circle for each line.

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

Example 3

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

Fill **one** circle for each line.

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

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

About you

1

Are you a girl or a boy?

*Fill **one** circle only.*

Girl --

Boy --

2

When were you born?

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

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

How often do you speak <language of test> at home?*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.)*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 |
|----------------------------------------------------|-----------------------|-----------------------|
| | ↓ | ↓ |
| a) A computer or tablet | <input type="radio"/> | <input type="radio"/> |
| b) Study desk/table for your use | <input type="radio"/> | <input type="radio"/> |
| c) Your own room..... | <input type="radio"/> | <input type="radio"/> |
| d) Internet connection | <input type="radio"/> | <input type="radio"/> |
| e) Your own mobile phone | <input type="radio"/> | <input type="radio"/> |
| f) <country-specific indicator of
wealth> | <input type="radio"/> | <input type="radio"/> |
| g) <country-specific indicator of
wealth> | <input type="radio"/> | <input type="radio"/> |
| h) <country-specific indicator of
wealth> | <input type="radio"/> | <input type="radio"/> |
| 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>

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>

*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?

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>

Fill one circle only.

Yes --

No --

I don't know --

Not applicable --

B. <Parent/Guardian B>

Fill one circle only.

Yes --

No --

I don't know --

Not applicable --

9**A. Were you born in <country>?***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>?***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?***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 |
|------------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| a) I feel tired | <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 |
|--------------------------------------------------------------------------------------------------|-----------------------|-----------------------|
| a) Access the textbook or other course materials | <input type="radio"/> | <input type="radio"/> |
| b) Access assignments posted online by my teacher | <input type="radio"/> | <input type="radio"/> |
| c) Collaborate with classmates on assignments or projects | <input type="radio"/> | <input type="radio"/> |
| d) Communicate with the teacher | <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"/> |
| 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
a) I like being in school	○	—————	○	—————	○	—————	○
b) I feel safe when I am at school	○	—————	○	—————	○	—————	○
c) I feel like I belong at this school	○	—————	○	—————	○	—————	○
d) Teachers at my school are fair to me	○	—————	○	—————	○	—————	○
e) I am proud to go to this school	○	—————	○	—————	○	—————	○

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
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"/>
b) Spread lies about me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) Shared my secrets with others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) Refused to talk to me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) Insulted a member of my family ...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f) Stole something from me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g) Made me do things I didn't want to do	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h) Sent me nasty or hurtful messages online	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
i) Shared nasty or hurtful things about me online	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
j) Shared embarrassing photos of me online	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
k) Threatened me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
l) Physically hurt me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
m) Excluded me from their group (e.g., parties, messaging)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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?

*Fill **one** circle only.*

Every or almost every lesson --

About half the lessons --

Some lessons --

Never --

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
a) I enjoy learning mathematics -----	○	○	○	○
b) I wish I did not have to study mathematics -----	○	○	○	○
c) Mathematics is boring -----	○	○	○	○
d) I learn many interesting things in mathematics -----	○	○	○	○
e) I like mathematics -----	○	○	○	○
f) I like any schoolwork that involves numbers -----	○	○	○	○
g) I like to solve mathematics problems -----	○	○	○	○
h) I look forward to mathematics class -----	○	○	○	○
i) Mathematics is one of my favorite subjects -----	○	○	○	○

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 |
|---------------------------------------------------------------------|----------------|-------------------|----------------------|-------------------|
| a) I know what my teacher expects me to do | ○ | ○ | ○ | ○ |
| b) My teacher is easy to understand -- | ○ | ○ | ○ | ○ |
| c) My teacher has clear answers to my questions | ○ | ○ | ○ | ○ |
| d) My teacher is good at explaining mathematics | ○ | ○ | ○ | ○ |
| e) My teacher does a variety of things to help us learn | ○ | ○ | ○ | ○ |
| f) My teacher links new lessons to what I already know | ○ | ○ | ○ | ○ |
| g) My teacher explains a topic again when we don't understand | ○ | ○ | ○ | ○ |

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
	↓	↓	↓	↓
a) Students don't listen to what the teacher says	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) There is disruptive noise	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) It is too disorderly for students to work well	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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"/>
e) Students interrupt the teacher	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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 |
|------------------------------------------------------------------------------------|----------------|---|-------------------|---|----------------------|---|-------------------|
| | ↓ | | ↓ | | ↓ | | ↓ |
| a) I usually do well in mathematics --- | ○ | — | ○ | — | ○ | — | ○ |
| b) Mathematics is more difficult
for me than for many of
my classmates ----- | ○ | — | ○ | — | ○ | — | ○ |
| c) Mathematics is not one of
my strengths ----- | ○ | — | ○ | — | ○ | — | ○ |
| d) I learn things quickly
in mathematics ----- | ○ | — | ○ | — | ○ | — | ○ |
| e) Mathematics makes me
nervous ----- | ○ | — | ○ | — | ○ | — | ○ |
| f) I am good at working out
difficult mathematics problems ----- | ○ | — | ○ | — | ○ | — | ○ |
| g) My teacher tells me I am good at
mathematics ----- | ○ | — | ○ | — | ○ | — | ○ |
| h) Mathematics is harder for me
than any other subject ----- | ○ | — | ○ | — | ○ | — | ○ |
| i) Mathematics makes me
confused ----- | ○ | — | ○ | — | ○ | — | ○ |

20

How much do you agree with these statements about mathematics?

Fill **one** circle for each line.

- | | Agree
a lot | Agree
a little | Disagree
a little | Disagree
a lot |
|--------------------------------------------------------------------------------------|----------------|-------------------|----------------------|-------------------|
| a) I think learning mathematics will help me in my daily life | ○ | ○ | ○ | ○ |
| b) I need mathematics to learn other school subjects | ○ | ○ | ○ | ○ |
| c) I need to do well in mathematics to get into the <university> of my choice | ○ | ○ | ○ | ○ |
| d) I need to do well in mathematics to get the job I want | ○ | ○ | ○ | ○ |
| e) I would like a job that involves using mathematics | ○ | ○ | ○ | ○ |
| f) It is important to learn about mathematics to get ahead in the world | ○ | ○ | ○ | ○ |
| g) Learning mathematics will give me more job opportunities when I am an adult | ○ | ○ | ○ | ○ |
| h) My parents think that it is important that I do well in mathematics | ○ | ○ | ○ | ○ |
| i) It is important to do well in mathematics | ○ | ○ | ○ | ○ |

Science in School

21

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

Fill one circle only.

At least once a week --

Once or twice a month --

A few times a year --

Never --

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
a) I enjoy learning science	↓ ○	○	○	○
b) I wish I did not have to study science	○	○	○	○
c) Science is boring	○	○	○	○
d) I learn many interesting things in science	○	○	○	○
e) I like science	○	○	○	○
f) I look forward to learning science in school	○	○	○	○
g) Science teaches me how things in the world work	○	○	○	○
h) I like to conduct science experiments	○	○	○	○
i) Science is one of my favorite subjects	○	○	○	○

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 |
|---------------------------------------------------------------------|----------------|-------------------|----------------------|-------------------|
| a) I know what my teacher expects me to do | ↓
○ | ○ | ○ | ○ |
| b) My teacher is easy to understand -- | ○ | ○ | ○ | ○ |
| c) My teacher has clear answers to my questions | ○ | ○ | ○ | ○ |
| d) My teacher is good at explaining science | ○ | ○ | ○ | ○ |
| e) My teacher does a variety of things to help us learn | ○ | ○ | ○ | ○ |
| f) My teacher links new lessons to what I already know | ○ | ○ | ○ | ○ |
| g) My teacher explains a topic again when we don't understand | ○ | ○ | ○ | ○ |

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

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

Homework

26

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

Fill *one* circle for each line.

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

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

Fill *one* circle for each line.

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

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
a) Mathematics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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
a) Mathematics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) Science	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>





BOSTON
COLLEGE

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<Grade 8>



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APPENDIX C.2: TIMSS 2019 Draft U.S. Adaptations to International Questionnaires

Draft U.S. adaptations to the final TIMSS 2019 Main Study international background questionnaires for grades 4 and 8 are listed in this document. These adaptations, which are similar to the adaptations for TIMSS 2015, are currently being proposed to IEA for review and approval. Following IEA approval, the final U.S. versions of the TIMSS 2019 Main Study background questionnaires will be submitted in Appendix C to OMB in a change request.

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TIMSS 2019 - School questionnaires

U.S. adaptations in both grades 4 and 8 school background questionnaires:

1. Adds an entirely new national question:

ScQ04- **Around the 1st of October 2018, what percentage of students at this school were eligible to receive free or reduced-price lunches through the National School Lunch Program?**

With response options:

_____ percentage of students

Write in a number.

2. Adds an entirely new national question:

ScQ06- **Of the students currently enrolled in your school, what percentage has been identified as limited-English proficient (LEP)/English language learners (ELL)?**

With response options:

Fill in one circle only.

1. 0%
2. 1-5%
3. 6-10%
4. 11-25%
5. 26-50%
6. 51-75%
7. 76-90%
8. Over 90%

3. Adds an entirely new national question:

ScQ07- **What type of school is this?**

With response options:

Fill in one circle only.

1. Regular public school
2. A regular public school with a magnet program
3. A magnet school or school with a special program emphasis (e.g., Montessori, science/math school, performing arts school, talented/gifted school, foreign language immersion school)
4. Special education: a school that primarily serves students with disabilities
5. Alternative: a school designed to address the needs of students, typically at risk of educational failure, which cannot be met in regular schools

6. Vocational
7. Charter school
8. Private (independent)
9. Private (religiously affiliated)
10. Other

4. Adds an entirely new national question:

ScQ09-**Which best characterizes the average income level of the school's immediate area?**

With response options:

Fill in one circle only.

1. High
2. Medium
3. Low

5. Recodes answer response option from "minutes" to "hours and minutes:"

ScQ-10- **What is the total instructional time, excluding breaks, in a typical day?**

_____ hours _____ minutes

Write in the number of hours and minutes per day

6. Adds entirely new national questions and national answer dimensions.

ScQ21a (grade 4); ScQ-22a (grade 8); G20a (grade 8) – **In your school, are any of the following used to evaluate the practice of (fourth grade/eighth grade mathematics/eighth grade science) teachers?**

Observations by the principal or senior staff

ScQ21b (grade 4); ScQ-22b (grade 8); G20b (grade 8) – **In your school, are any of the following used to evaluate the practice of (fourth grade/eighth grade mathematics/eighth grade science) teachers?**

Observations by inspectors or other persons external to the school

ScQ21c (grade 4); ScQ-22c (grade 8); G20a (grade 8) – **In your school, are any of the following used to evaluate the practice of (fourth grade/eighth grade mathematics/eighth grade science) teachers?**

Student achievement

ScQ21d (grade 4); ScQ-22d (grade 8); G20d (grade 8) – **In your school, are any of the following used to evaluate the practice of (fourth grade/eighth grade mathematics/eighth grade science) teachers?**

Teacher peer review

With response options: Yes/No

7. Changes wording of question with placement of word, “altogether” from end of sentence to the middle.

ScQ23 (grade 4); ScQ24 (grade 8)- **By the end of this school year, how many years altogether will you have been a principal?**

_____years

Please round to the nearest whole number.

TIMSS 2019 - Teacher questionnaires

U.S. adaptations in both grades 4 and 8 teacher background questionnaires:

8. Adds an entirely new national question:

TQG01 - **What year did you start teaching?**

With response options:

_____ ***Please write in a year.***

9. Changes wording of question by replacing “By the end” with “At the end.”

ScQ23- **At the end of this school year, how many years altogether will you have taught altogether?**

_____ **years**

Please round to the nearest whole number.

10. Adds a new national response category:

G07a- **How would you characterize each of the following within your school?**
Teacher’s job satisfaction

With response option:

Check one circle for each line.

- 1. Very high**
- 2. High**
- 3. Medium**
- 4. Low**
- 5. Very low**

11. Adds instructions to sections in the teacher questionnaire.

Grade 4

Questions 15-16 ask about mathematics instruction for the fourth-grade students in the TIMSS class.

Questions 17-18 ask about calculator and computer use for teaching mathematics to the fourth-grade students in the TIMSS class.

Question 19 asks about the topics taught and the content covered in teaching mathematics to the fourth-grade students in the TIMSS class.

Question 20 asks about mathematics homework for the fourth-grade students in the TIMSS class.

Questions 25-26 ask about science instruction for the fourth-grade students in the TIMSS class. Question 27 asks about computer use for teaching science to the fourth-grade students in the TIMSS class.

Question 28 asks about the topics taught and the content covered in teaching science to the fourth-grade students in the TIMSS class.

Question 29 asks about science homework for the fourth-grade students in the TIMSS class.

Questions 30-31 asks about science assessment for the fourth-grade students in the TIMSS class.

Grade 8

Questions 11-14 ask about instruction for the eighth-grade students in the TIMSS class.

Questions 15-17 ask about mathematics instruction for the eighth-grade students in the TIMSS class.

Questions 18-19 ask about calculator and computer use for teaching mathematics to the eighth-grade students in the TIMSS class.

Question 20 asks about the topics taught and the content covered in teaching mathematics to the eighth-grade students in the TIMSS class.

Question 21 asks about mathematics homework for the eighth-grade students in the TIMSS class.

Questions 22-23 asks about mathematics assessment for the eighth-grade students in the TIMSS class.

Questions 11-14 ask about instruction for the eighth-grade students in the TIMSS class.

Questions 15-17 ask about science instruction for the eighth-grade students in the TIMSS class.

Question 18 asks about computer use for teaching science to the eighth-grade students in the TIMSS class.

Question 19 asks about the topics taught and the content covered in teaching science to the eighth-grade students in the TIMSS class.

Question 20 asks about science homework for the eighth-grade students in the TIMSS class.

Questions 21-22 asks about science assessment for the eighth-grade students in the TIMSS class.

12. Removes “etc.” from “(e.g., workshops, seminars)”

TM24 and TQ33 (grade 4); TM25 and TQS24 (grade 8)-**In the past two years, how many hours in total have you spent in formal in-service/professional development (e.g., workshops, seminars) for science?**

Fill in one circle only.

1. None
2. Less than 6 hours
3. 6–15 hours
4. 16–35 hours
5. More than 35 hours

U.S. adaptations in the 8 math teacher background questionnaire only:

13. Adds an entirely new national question:

TQM17 - Which best describes the mathematics course you are teaching to the class with the TIMSS students?

With response options:

Fill in one circle only.

1. Basic or general eighth-grade math (not algebra or pre-algebra)
2. Pre-algebra or introduction to algebra
3. Two-year pre-algebra
4. Algebra I (one-year course)
5. Algebra I (first year of a two-year Algebra I course)
6. Algebra I (second year of two-year Algebra I course)
7. Geometry
8. Algebra II
9. Integrated or sequential math
10. Other math class

U.S. adaptations in the 8 science teacher background questionnaire only:

14. Adds an entirely new national question:

TQS17- - Which best describes the science course you are teaching to the class with the TIMSS students?

With response options:

Fill in one circle only.

1. General science (several content areas of science taught separately)
2. Integrated science (several content areas of science combined and taught together throughout the year)
3. Life science (e.g., biology, ecosystems, human health)
4. Physical science (e.g., physics or chemistry)
5. Earth science (e.g., geology, Earth and the solar system, fossils)

TIMSS 2019 - Student questionnaires

U.S. adaptations in both grades 4 and 8 student background questionnaires:

15. Adds an entirely new national question:

SQG-01b - **Are you Hispanic or Latino?**

With response options:

Fill in one circle only.

- 1. Yes, I am Hispanic or Latino**
- 2. No, I am not Hispanic or Latino**

16. Adds an entirely new national question:

SQG-01c - **Which of the following best describes you?**

With response options:

Fill in one circle only.

- 1. White**
- 2. Black or African American**
- 3. Asian**
- 4. American Indian or Alaska Native**
- 5. Native Hawaiian or other Pacific Islander**

17. Adds "If" directions.

SQG-03A-**How often do you speak English at home?**

Fill in one circle only.

- 1. I always speak English at home**
If Always, please go to question 4.

- 2. I almost always speak English at home**
- 3. I sometimes speak English and sometimes speak another language at home**
- 4. I never speak English at home**

If Almost always, Sometimes, Never, please go to question 3B

18. Adds an entirely new national question:

SQG-03B - **What language do you speak at home (other than English)?**

With response options:

Fill in one circle only.

1. Spanish

2. Other Please specify _____

19. Changes response option text from “mobile phone” to “cell phone.”

SQG-05e-**Do you have any of these things at your home?**

Fill in only one circle for each row.

1. Yes

2. No

Your own cell phone

20. Adds text to define United States:

SQG-06a (grade 4); SQIS-08 (grade 8) - **Were your parents/guardians born in the United States? (“United States” includes the 50 states, its territories, the District of Columbia, and U.S. military bases abroad)**

With response options: **yes/no**

21. Adds entirely new questions and national response categories:

SQG-08a (grade 4); SQIS-10a (grade 8) - **The following questions ask about activities you do outside of school.**

Do you play on a sports team outside of school?

SQG-08b (grade 4); SQIS-10b (grade 8) - **The following questions ask about activities you do outside of school.**

Do you often play a musical instrument outside of school?

SQG-08c (grade 4); SQIS-10c (grade 8) - **The following questions ask about activities you do outside of school.**

Are you studying something in a class outside of school?

SQG-08d (grade 4); SQIS-10d (grade 8) - **The following questions ask about activities you do outside of school.**

Do you belong to a club outside of school (like Boy/Girl Scouts, 4-H, or Boys and Girls Club)?

With response options: **yes/no**

22. Adds an entirely new national question:

SQG-9 (grade 4); SQIS-11 (grade 8) **Are you preparing for or have you participated in a science club, a science fair, or a science competition?**

With response options: **yes/no**

23. Adds an entirely new national question:

SQG-11b (grade 4); SQIS-12b (grade 8) - **How many days were you absent from school in the last month?**

With response options:

Fill in one circle only.

- 1. None**
- 2. 1 or 2 days**
- 3. 3 or 4 days**
- 4. 5 to 10 days**
- 5. More than 10 days**

24. Adds entirely new national questions and national category responses:

SQG-10 (grade 4) - **Have you ever repeated a grade? In elementary school**

SQIS-13 (grade 8) – **Have you ever repeated a grade? In middle or junior high school**

With response options:

Yes/No

25. Adds a new national category response:

SQG-05f; SQG-05g - **Do you have any of these things at your home? <country-specific indicator of wealth>**

With response option:

**A gaming system (e.g., PlayStation, Wii, Xbox)
VCR, DVD, or Blu-ray player**

26. Adds an entirely new national question:

SQMS-24 (grade 4); SQIS-31 (grade 8) - **How hard was this test compared to most other tests you have taken this year in school?**

With response options:

Fill in one circle only.

1. Easier than other tests
2. About as hard as other tests
3. Harder than other tests
4. Much harder than other tests

27. Adds an entirely new national question:

SQMS-25 (grade 4); SQIS-32 (grade 8) - **How hard did you try on this test compared to how hard you tried on most other tests you have taken this year in school?**

With response options:

Fill in one circle only.

1. Not as hard as on other tests
2. About as hard as on other tests
3. Harder than on other tests
4. Much harder than on other tests

28. Adds an entirely new national question:

SQMS-26 (grade 4); SQIS-33 (grade 8) - **How important was it to you to do well on this test?**

With response options:

Fill in one circle only.

1. Not very important
2. Somewhat important
3. Important
4. Very important

APPENDIX C.3: SUMMARY OF CHANGES FROM TIMSS 2019 INTERNATIONAL FIELD TEST QUESTIONNAIRES TO INTERNATIONAL MAIN STUDY QUESTIONNAIRES

The International Association for the Evaluation of Education Achievement (IEA) released the final international versions of the TIMSS 2019 main study questionnaires. This appendix, Appendix C.3, lists the changes that were made to the final TIMSS 2019 international main study questionnaires from the international field test questionnaires. Appendix C.1 provides the final international versions of the TIMSS 2019 main study questionnaires. Appendix C.2 provides the expected U.S. adaptations to the international versions of the TIMSS 2019 main study questionnaires. The final adapted U.S. TIMSS 2019 main study questionnaires will be provided to OMB as a change request in Fall 2018, after IEA approval is granted.

The changes detailed in this appendix (C.3) are listed first by grade, then by questionnaire (e.g., school principal, teacher, and student), and lastly by the three types of changes made: new TIMSS items; deleted TIMSS items; and revisions to TIMSS item wording (made for the TIMSS 2019 main study administration).

Straightforward adaptations of U.K. English to American English (e.g., favourite to favorite; adding a comma after “e.g.”; or removal of ® registered trademark symbols) were applied throughout each questionnaire and are not included in the tables below.

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**Summary of Changes from TIMSS 2019 International Field Test to TIMSS 2019 International Main Study
Principal, Teacher, and Student Questionnaire Items**

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A. Principal Questionnaire – Grade 4

1. New Items

Item #	Added Text/Item
Q11	<p>Does your school have classroom libraries?</p> <p>Fill in <i>one</i> circle only.</p> <ul style="list-style-type: none"> • Yes • No

2. Deleted Items (entire stem)

Item Number	Deleted Item
Q9B	<p>Approximately how many titles of magazines and other periodicals (print) does your school library have?</p> <p>Fill in <i>one</i> circle only.</p> <ul style="list-style-type: none"> • 0 • 1–5 • 6–10 • 11–30 • 5. 31 or more

3. Revised Items

2019 FT Final International Version		2019 MS Final International Version	
Item #	Original Item	Item #	Revised Item
Q09A	<p>If Yes, <u>Approximately</u> how many books (print) with different titles does your school library have (exclude magazines and periodicals)?</p> <p>Fill in <i>one</i> circle only.</p> <ul style="list-style-type: none"> • 250 or fewer • 251–500 • 501–2,000 • 2,001–5,000 • 5,001–10,000 • More than 10,000 	Q10B	<p>Note: Answer options changed.</p> <p>If Yes, <u>Approximately</u> how many books (print) with different titles does your school library have (exclude magazines and periodicals)?</p> <p>Fill in <i>one</i> circle only.</p> <ul style="list-style-type: none"> • 2,000 books or fewer • More than 2,000 books

B. Teacher Questionnaire – Grade 4

1. New Items

Item #	Added Text/Item
TQM-09B	<p>Do you need future professional development in any of the following? <i>Fill in only one circle for each row.</i></p> <ul style="list-style-type: none"> • Yes • No <p>a) Mathematics pedagogy/instruction b) Mathematics curriculum c) Integrating technology into mathematics instruction d) Improving students’ critical thinking or problem solving skills e) Mathematics assessment f) Addressing individual students’ needs</p>
TQS-08B	<p>Do you need future professional development in any of the following? <i>Fill in only one circle for each row.</i></p> <ul style="list-style-type: none"> • Yes • No <p>a) Science content b) Science pedagogy/instruction c) Science curriculum d) Integrating technology into science instruction e) Improving students’ critical thinking or inquiry skills f) Science assessment g) Addressing individual students’ needs h) Integrating science with other subjects (e.g., mathematics, technology)</p>

2. Deleted Items (entire stem)

Item #	Deleted Text/Item
TQM9 TQS8	<p>To what extent do you depend on assessment results? <i>Fill in only one circle for each row.</i></p> <ul style="list-style-type: none"> • A lot • Some • A little • None <p>a) To modify your instruction b) To give grades c) To report to parents d) To determine the learning needs of each student</p>

3. Revised Items

2019 FT Final International Version	2019 MS Final International Version
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Item #	Original Item	Item #	Revised Item
TQM02	<p>In teaching mathematics to this class, how often do you ask students to do the following? <i>Fill in only one circle for each row.</i></p> <ul style="list-style-type: none"> • Every or almost every lesson • About half the lessons • Some lessons • Never <p>a) Listen to me explain new mathematics content b) Listen to me explain how to solve problems c) Memorize rules, procedures, and facts d) Practice procedures on their own e) Work problems (individually or with peers) with my guidance f) Work problems (individually or with peers) while I am occupied by other tasks g) Work on problems for which there is no immediately obvious method of solution h) Work problems together in the whole class with direct guidance from me i) Work in mixed ability groups j) Work in same ability groups</p>	TQM-02	<p><i>Note: Three answer dimensions removed and one added</i></p> <p>In teaching mathematics to this class, how often do you ask students to do the following? <i>Fill in only one circle for each row.</i></p> <ol style="list-style-type: none"> 1. Every or almost every lesson 2. About half the lessons 3. Some lessons 4. Never <p>a) Listen to me explain new mathematics content b) Listen to me explain how to solve problems c) Memorize rules, procedures, and facts d) Practice procedures on their own e) Apply what they have learned to new problem situations on their own f) Work problems together in the whole class with direct guidance from me g) Work in mixed ability groups h) Work in same ability groups</p>
TQM-04C	<p>How often do you have the students do the following activities on computers during mathematics lessons? <i>Fill in only one circle for each row.</i></p> <ul style="list-style-type: none"> • Every or almost every day • Once or twice a week • Once or twice a month • Never or almost never <p>a) Practice skills and procedures b) Look up ideas and information c) Create data displays (e.g., charts, graphs) d) Watch videos to learn how to solve problems</p>	TQM-04C	<p><i>Note: Item stem and answer dimensions revised.</i></p> <p>How often do you do activities on computers during mathematics lessons to support learning for: <i>Fill in only one circle for each row.</i></p> <ul style="list-style-type: none"> • Every or almost every day • Once or twice a week • Once or twice a month • Never or almost never <p>a) Whole class b) Low-performing students c) High-performing students d) Students with special needs</p>
TQM-07	<p>How much importance do you place on the following assessment strategies in mathematics? <i>Fill in only one circle for each row.</i></p>	TQM-07	<p><i>Note: Response categories changed</i></p> <p>How much importance do you place on the following assessment strategies in mathematics? <i>Fill in only one circle for each row.</i></p>

2019 FT Final International Version		2019 MS Final International Version	
Item #	Original Item	Item #	Revised Item
	<ul style="list-style-type: none"> • Major • Some • Little • None <p>a) Observing students as they work b) Asking students to answer questions during class c) Short, regular written assessments d) Longer tests (e.g., unit tests or exams) e) Long-term projects</p>		<ul style="list-style-type: none"> • A lot • Some • None <p>a) Observing students as they work b) Asking students to answer questions during class c) Short, regular written assessments d) Longer tests (e.g., unit tests or exams) a) Long-term projects</p>
	<p>Preparation to Teach Mathematics</p>		<p><i>Note: Section Header changed</i></p> <p>Professional Development to Teach Mathematics</p>
TQM-10	<p>In the past two years, have you participated in professional development in any of the following? <i>Fill in only one circle for each row.</i></p> <ul style="list-style-type: none"> • Yes • No <p>a) Mathematics content b) Mathematics pedagogy/instruction c) Mathematics curriculum d) Integrating information technology into mathematics instruction e) Improving students’ critical thinking or problem solving skills f) Mathematics assessment g) Addressing individual students’ needs</p>	TQM-09A	<p><i>Note: Removed “information” from an answer dimension</i></p> <p>In the past two years, have you participated in professional development in any of the following? <i>Fill in only one circle for each row.</i></p> <ul style="list-style-type: none"> • Yes • No <p>a) Mathematics content b) Mathematics pedagogy/instruction c) Mathematics curriculum d) Integrating technology into mathematics instruction e) Improving students’ critical thinking or problem solving skills f) Mathematics assessment g) Addressing individual students’ needs</p>
TQS-03C	<p>How often do you have the students do the following activities on computers during science lessons? <i>Fill in only one circle for each row.</i></p> <ul style="list-style-type: none"> • Every or almost every day • Once or twice a week • Once or twice a month • Never or almost never <p>a) Practice skills and procedures b) Look up ideas and information c) Create data displays (e.g., charts, graphs) d) Watch videos to learn how to solve</p>	TQS-03C	<p><i>Note: Item stem and answer dimensions revised.</i></p> <p>How often do you do activities on computers during science lessons to support learning for: <i>Fill in only one circle for each row.</i></p> <ul style="list-style-type: none"> • Every or almost every day • Once or twice a week • Once or twice a month • Never or almost never <p>a) Whole class b) Low-performing students c) High-performing students d) Students with special needs</p>

2019 FT Final International Version		2019 MS Final International Version	
Item #	Original Item	Item #	Revised Item
	problems		
TQS-06	<p>How much importance do you place on the following assessment strategies in science? Fill in only one circle for each row.</p> <ul style="list-style-type: none"> • Major • Some • Little • None <p>a) Observing students as they work b) Asking students to answer questions during class c) Short, regular written assessments d) Longer tests (e.g., unit tests or exams) Long-term projects</p>	TQS-06	<p><i>Note: Response categories changed</i></p> <p>How much importance do you place on the following assessment strategies in science? Fill in only one circle for each row.</p> <ul style="list-style-type: none"> • A lot • Some • None <p>a) Observing students as they work b) Asking students to answer questions during class c) Short, regular written assessments d) Longer tests (e.g., unit tests or exams) b) Long-term projects</p>
	Preparation to Teach Science		<p><i>Note: Section Header changed</i></p> <p>Professional Development to Teach Science</p>
TQS-09	<p>In the past two years, have you participated in professional development in any of the following? Fill in only one circle for each row.</p> <ul style="list-style-type: none"> • Yes • No <p>a) Science content b) Science pedagogy/instruction c) Science curriculum d) Integrating information technology into science instruction e) Improving students' critical thinking or inquiry skills f) Science assessment g) Addressing individual students' needs h) Integrating science with other subjects (e.g., mathematics, technology)</p>	TQS-08A	<p><i>Note: Removed "information" from an answer dimension</i></p> <p>In the past two years, have you participated in professional development in any of the following? Fill in only one circle for each row.</p> <ul style="list-style-type: none"> • Yes • No <p>a) Science content b) Science pedagogy/instruction c) Science curriculum d) Integrating technology into science instruction e) Improving students' critical thinking or inquiry skills f) Science assessment g) Addressing individual students' needs h) Integrating science with other subjects (e.g., mathematics, technology)</p>

C. Student Questionnaire – Grade 4

1. Revised Items

2019 FT Final International Version		2019 MS Final International Version	
Item #	Original Item	Item #	Revised Item
SQG-11	<p>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)?</p> <p><i>Fill in only one circle for each row.</i></p> <ul style="list-style-type: none"> • At least once a week • Once or twice a month • A few times a year • Never <ul style="list-style-type: none"> a) Made fun of me or called me names b) Left me out of their games or activities c) Spread lies about me d) Stole something from me e) Damaged something of mine on purpose f) Hit or hurt me (e.g., shoving, hitting, kicking) g) Made me do things I didn't want to do h) Shared embarrassing information about me i) Threatened me 	SQG-11	<p><i>Note: Stem wording revised, two answer dimensions added, and one reworded</i></p> <p>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?</p> <p><i>Fill in only one circle for each row.</i></p> <ul style="list-style-type: none"> • At least once a week • Once or twice a month • A few times a year • Never <ul style="list-style-type: none"> a) Made fun of me or called me names b) Left me out of their games or activities c) Spread lies about me d) Stole something from me e) Damaged something of mine on purpose f) Hit or hurt me (e.g., shoving, hitting, kicking) g) Made me do things I didn't want to do h) Sent me nasty or hurtful messages online i) Shared nasty or hurtful things about me online j) Shared embarrassing photos of me online k) Threatened me

D. Principal Questionnaire – Grade 8

1. New Items

Item #	Added Text/Item
Q11	<p>Does your school have classroom libraries?</p> <p><i>Fill in one circle only.</i></p> <ul style="list-style-type: none"> • Yes • No

2. Deleted Items (entire stem)

Item Number	Deleted Item
Q9B	<p>Approximately how many titles of magazines and other periodicals (print) does your school library have?</p> <p><i>Fill in one circle only.</i></p> <ul style="list-style-type: none"> • 0 • 1–5 • 6–10 • 11–30 • 31 or more

3. Revised Items

2019 FT Final International Version		2019 MS Final International Version	
Item #	Original Item	Item #	Original Item
Q09A	<p>If Yes, <u>Approximately</u> how many books (print) with different titles does your school library have (exclude magazines and periodicals)?</p> <p><i>Fill in one circle only.</i></p> <ul style="list-style-type: none"> • 250 or fewer • 251–500 • 501–2,000 • 2,001–5,000 • 5,001–10,000 • More than 10,000 	Q09A	<p>If Yes, <u>Approximately</u> how many books (print) with different titles does your school library have (exclude magazines and periodicals)?</p> <p><i>Fill in one circle only.</i></p> <ul style="list-style-type: none"> • 250 or fewer • 251–500 • 501–2,000 • 2,001–5,000 • 5,001–10,000 • More than 10,000

E. Teacher Math Questionnaire – Grade 8

1. New Items

Item #	Added Text/Item
TQM-22B	<p>Do you need future professional development in any of the following? <i>Fill in only one circle for each row.</i></p> <ul style="list-style-type: none"> • Yes • No <p style="margin-left: 40px;">a) Mathematics pedagogy/instruction b) Mathematics curriculum c) Integrating technology into mathematics instruction d) Improving students’ critical thinking or problem solving skills e) Mathematics assessment f) Addressing individual students’ needs</p>

2. Deleted Items (entire stem)

Item #	Deleted Text/Item
TQM-22	<p>To what extent do you depend on assessment results? <i>Fill in only one circle for each row.</i></p> <ul style="list-style-type: none"> • A lot • Some • A little • None <p style="margin-left: 40px;">a) To modify your instruction b) To give grades c) To report to parents d) To determine the learning needs of each student</p>

3. Revised Items

2019 FT Final International Version		2019 MS Final International Version	
Item #	Original Item	Item #	Original Item
TQM-15	<p>In teaching mathematics to this class, how often do you ask students to do the following? <i>Fill in only one circle for each row.</i></p> <ul style="list-style-type: none"> • Every or almost every lesson • About half the lessons • Some lessons • Never <p style="margin-left: 40px;">a) Listen to me explain new mathematics content</p>	TQM-15	<p><i>Note: Three answer dimensions removed and two added</i></p> <p>In teaching mathematics to this class, how often do you ask students to do the following? <i>Fill in only one circle for each row.</i></p> <ul style="list-style-type: none"> • Every or almost every lesson • About half the lessons • Some lessons • Never <p style="margin-left: 40px;">a) Listen to me explain new mathematics content b) Listen to me explain how to solve</p>

2019 FT Final International Version		2019 MS Final International Version	
Item #	Original Item	Item #	Original Item
	<ul style="list-style-type: none"> b) Listen to me explain how to solve problems c) Memorize rules, procedures, and facts d) Work problems (individually or with peers) with my guidance e) Work problems (individually or with peers) while I am occupied by other tasks f) Work on problems for which there is no immediately obvious method of solution g) Work problems together in the whole class with direct guidance from me h) Work in mixed ability groups i) Work in same ability groups 		<ul style="list-style-type: none"> c) Memorize rules, procedures, and facts d) Practice procedures on their own e) Apply what they have learned to new problem situations on their own f) Work problems together in the whole class with direct guidance from me g) Work in mixed ability groups h) Work in same ability groups
TQM-17C	<p>How often do you have the students do the following activities on computers during mathematics lessons? <i>Fill in only one circle for each row.</i></p> <ul style="list-style-type: none"> • Every or almost every day • Once or twice a week • Once or twice a month • Never or almost never <ul style="list-style-type: none"> a) Practice skills and procedures b) Look up ideas and information c) Process and analyze data d) Create data displays (e.g., charts, graphs) e) Create spreadsheets f) Watch videos to learn how to solve problems 	TQM-17C	<p><i>Note: Item stem, answer dimensions revised, and two answer dimensions removed.</i></p> <p>How often do you do activities on computers during mathematics lessons to support learning for: <i>Fill in only one circle for each row.</i></p> <ul style="list-style-type: none"> • Every or almost every day • Once or twice a week • Once or twice a month • Never or almost never <ul style="list-style-type: none"> a) Whole class b) Low-performing students c) High-performing students d) Students with special needs
TQM-20	<p>How much importance do you place on the following assessment strategies in mathematics? <i>Fill in only one circle for each row.</i></p> <ul style="list-style-type: none"> • Major • Some • Little • None <ul style="list-style-type: none"> a) Observing students as they work b) Asking students to answer questions during class c) Short, regular written assessments d) Longer tests (e.g., unit tests or exams) e) Long-term projects 	TQM-20	<p><i>Note: Response categories changed</i></p> <p>How much importance do you place on the following assessment strategies in mathematics? <i>Fill in only one circle for each row.</i></p> <ul style="list-style-type: none"> • A lot • Some • None <ul style="list-style-type: none"> a) Observing students as they work b) Asking students to answer questions during class c) Short, regular written assessments d) Longer tests (e.g., unit tests or exams) e) Long-term projects

2019 FT Final International Version		2019 MS Final International Version	
Item #	Original Item	Item #	Original Item
	Preparation to Teach Mathematics		<p><i>Note: Section Header changed</i></p> <p>Professional Development to Teach Mathematics</p>
TQM-23	<p>In the past two years, have you participated in professional development in any of the following? <i>Fill in only one circle for each row.</i></p> <ul style="list-style-type: none"> • Yes • No <ul style="list-style-type: none"> a) Mathematics content b) Mathematics pedagogy/instruction c) Mathematics curriculum d) Integrating information technology into mathematics instruction e) Improving students' critical thinking or problem solving skills f) Mathematics assessment a) Addressing individual students' needs 	TQM-22A	<p><i>Note: Removed "information" from an answer dimension</i></p> <p>In the past two years, have you participated in professional development in any of the following? <i>Fill in only one circle for each row.</i></p> <ul style="list-style-type: none"> • Yes • No <ul style="list-style-type: none"> a) Mathematics content b) Mathematics pedagogy/instruction c) Mathematics curriculum d) Integrating technology into mathematics instruction e) Improving students' critical thinking or problem solving skills f) Mathematics assessment g) Addressing individual students' needs

F. Teacher Science Questionnaire – Grade 8

1. New Items

Item #	Added Text/Item
TQS-21B	<p>Do you need future professional development in any of the following?</p> <p><i>Fill in only one circle for each row.</i></p> <ul style="list-style-type: none"> • Yes • No <ul style="list-style-type: none"> a) Science content b) Science pedagogy/instruction c) Science curriculum d) Integrating technology into science instruction e) Improving students’ critical thinking or inquiry skills f) Science assessment g) Addressing individual students’ needs

2. Deleted Items (entire stem)

Item #	Deleted Text/Item
TQS-21	<p>To what extent do you depend on assessment results?</p> <p><i>Fill in only one circle for each row.</i></p> <ul style="list-style-type: none"> • A lot • Some • A little • None <ul style="list-style-type: none"> a) To modify your instruction b) To give grades c) To report to parents d) To determine the learning needs of each student

3. Revised Items

2019 FT Final International Version		2019 MS Final International Version	
Item #	Original Item	Item #	Revised Item
TQS-16C	<p>How often do you have the students do the following activities on computers during science lessons?</p> <p><i>Fill in only one circle for each row.</i></p> <ul style="list-style-type: none"> • Every or almost every day • Once or twice a week • Once or twice a month • Never or almost never <ul style="list-style-type: none"> a) Practice skills and procedures b) Look up ideas and information c) Do scientific procedures or experiments d) Study natural phenomena through 	TQS-16C	<p><i>Note: Item stem, answer dimensions revised, and two dimensions removed..</i></p> <p>How often do you do activities on computers during science lessons to support learning for:</p> <p><i>Fill in only one circle for each row.</i></p> <ul style="list-style-type: none"> • Every or almost every day • Once or twice a week • Once or twice a month • Never or almost never <ul style="list-style-type: none"> a) Whole class b) Low-performing students c) High-performing students d) Students with special needs

2019 FT Final International Version		2019 MS Final International Version	
Item #	Original Item	Item #	Revised Item
	<p>simulations</p> <p>e) Process and analyze data</p> <p>f) Prepare reports and presentations</p>		
TQS-19	<p>How much importance do you place on the following assessment strategies in science? <i>Fill in only one circle for each row.</i></p> <ul style="list-style-type: none"> • Major • Some • Little • None <p>a) Observing students as they work</p> <p>b) Asking students to answer questions during class</p> <p>c) Short, regular written assessments</p> <p>d) Longer tests (e.g., unit tests or exams)</p> <p>e) Long-term projects</p>	TQS-19	<p><i>Note: Response categories changed</i></p> <p>How much importance do you place on the following assessment strategies in science? <i>Fill in only one circle for each row.</i></p> <ul style="list-style-type: none"> • A lot • Some • None <p>a) Observing students as they work</p> <p>b) Asking students to answer questions during class</p> <p>c) Short, regular written assessments</p> <p>d) Longer tests (e.g., unit tests or exams)</p> <p>e) Long-term projects</p>
	<p>Preparation to Teach Science</p>		<p><i>Note: Section Header changed</i></p> <p>Professional Development to Teach Science</p>
TQS-22	<p>In the past two years, have you participated in professional development in any of the following? <i>Fill in only one circle for each row.</i></p> <ul style="list-style-type: none"> • Yes • No <p>a) Science content</p> <p>b) Science pedagogy/instruction</p> <p>c) Science curriculum</p> <p>d) Integrating information technology into science instruction</p> <p>e) Improving students' critical thinking or inquiry skills</p> <p>f) Science assessment</p> <p>g) Addressing individual students' needs</p> <p>Integrating science with other subjects (e.g., mathematics, technology)</p>	TQS-21A	<p><i>Note: Removed "information" from an answer dimension</i></p> <p>In the past two years, have you participated in professional development in any of the following? <i>Fill in only one circle for each row.</i></p> <ul style="list-style-type: none"> • Yes • No <p>a) Science content</p> <p>b) Science pedagogy/instruction</p> <p>c) Science curriculum</p> <p>d) Integrating technology into science instruction</p> <p>e) Improving students' critical thinking or inquiry skills</p> <p>f) Science assessment</p> <p>g) Addressing individual students' needs</p> <p>Integrating science with other subjects (e.g., mathematics, technology)</p>

G. Student Questionnaire – Grade 8

1. New Items

Item Number	Added Text/Item
SQM-15	<p>In mathematics lessons, how often do you work problems on your own?</p> <p><i>Fill in one circle only.</i></p> <ul style="list-style-type: none"> • Every or almost every lesson • About half the lessons • Some lessons • Never
SQM-18	<p>How often do these things happen in your mathematics lessons?</p> <p><i>Fill in only one circle for each row.</i></p> <ul style="list-style-type: none"> • Every or almost every lesson • About half the lessons • Some lessons • Never <p>a) Students don't listen to what the teacher says b) There is disruptive noise c) It is too disorderly for students to work well d) My teacher has to wait a long time for students to quiet down e) Students interrupt the teacher f) My teacher has to keep telling us to follow the classroom rules</p>
SQIS-21	<p>In science lessons, how often does your teacher ask you to conduct science experiments?</p> <p><i>Fill in one circle only.</i></p> <ul style="list-style-type: none"> • At least once a week • Once or twice a month • A few times a year • Never

2. Revised Items

2019 FT Final International Version		2019 MS Final International Version	
Item #	Original Item	Item #	Revised Item
Q12	<p>Do you use the Internet to do any of the following tasks for schoolwork (including classroom tasks, homework, studying outside of class)?</p> <p><i>Fill in one circle only.</i></p> <ul style="list-style-type: none"> • Yes • No <p>a) Access the textbook or other course materials b) Access assignments posted online by my teacher c) Collaborate with classmates on assignments or projects d) Communicate with the teacher e) Find information, articles, or tutorials to aid in understanding mathematics</p>	Q12	<p><i>Note: Reworded two answer dimensions</i></p> <p>Do you use the Internet to do any of the following tasks for schoolwork (including classroom tasks, homework, studying outside of class)?</p> <p><i>Fill in one circle only.</i></p> <ul style="list-style-type: none"> • Yes • No <p>a) Access the textbook or other course materials b) Access assignments posted online by my teacher c) Collaborate with classmates on assignments or projects d) Communicate with the teacher e) Find information, articles, or tutorials to aid in understanding mathematics or</p>

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	f) Find information, articles, or tutorials to aid in understanding science		science f) Access learning games or activities related to mathematics or science
SQG-14	<p>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? <i>Fill in only one circle for each row.</i></p> <ul style="list-style-type: none"> • At least once a week • Once or twice a month • A few times a year • Never <p>a) Made fun of my clothes b) Said mean things about my physical appearance (e.g., my hair, my size) c) Spread lies about me d) Shared my secrets with others e) Refused to talk to me f) Insulted a member of my family g) Stole something from me h) Made me do things I didn't want to do i) Shared embarrassing photos of me online j) Sent me mean messages or emails k) Threatened me l) Physically hurt me m) Excluded me from their group (e.g., parties, messaging) n) Damaged something of mine on purpose</p>	SQG-14	<p><i>Note: Added two dimensions and deleted two dimensions</i></p> <p>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? <i>Fill in only one circle for each row.</i></p> <ul style="list-style-type: none"> • At least once a week • Once or twice a month • A few times a year • Never <p>a) Said mean things about my physical appearance (e.g., my hair, my size) b) Spread lies about me c) Shared my secrets with others d) Refused to talk to me e) Insulted a member of my family f) Stole something from me g) Made me do things I didn't want to do h) Sent me nasty or hurtful messages online i) Shared nasty or hurtful things about me online j) Shared embarrassing photos of me online k) Threatened me l) Physically hurt me m) Excluded me from their group (e.g., parties, messaging) n) Damaged something of mine on purpose</p>
SQM-16	<p>How much do you agree with these statements about your <u>mathematics lessons</u>? <i>Fill in only one circle for each row.</i></p> <p>1. Agree a lot 2. Agree a little 3. Disagree a little 4. Disagree a lot</p>	SQM-17	<p><i>Note: Deleted seven dimensions</i></p> <p>How much do you agree with these statements about your <u>mathematics lessons</u>? <i>Fill in only one circle for each row.</i></p> <p>1. Agree a lot 2. Agree a little 3. Disagree a little</p>

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Item #	Original Item	Item #	Revised Item
	<ul style="list-style-type: none"> a) I know what my teacher expects me to do b) My teacher is easy to understand c) My teacher gives me interesting things to do d) My teacher has clear answers to my questions e) My teacher is good at explaining mathematics f) My teacher lets me show what I have learned g) My teacher does a variety of things to help us learn h) My teacher tells me how to do better when I make a mistake i) My teacher listens to what I have to say j) My teacher links new lessons to what I already know k) My teacher explains a topic again when we don't understand l) My teacher lets me explain why my answer is correct m) My teacher asks me to work on mathematics problems on my own n) My teacher asks us to discuss solutions to problems with our classmates 		<p>4. Disagree a lot</p> <ul style="list-style-type: none"> a) I know what my teacher expects me to do b) My teacher is easy to understand c) My teacher has clear answers to my questions d) My teacher is good at explaining mathematics e) My teacher does a variety of things to help us learn f) My teacher links new lessons to what I already know g) My teacher explains a topic again when we don't understand
SQIS-20	<p>How much do you agree with these statements about your <u>science lessons</u>? <i>Fill in only one circle for each row.</i></p> <ul style="list-style-type: none"> 1. Agree a lot 2. Agree a little 3. Disagree a little 4. Disagree a lot <ul style="list-style-type: none"> a) I know what my teacher expects me to do b) My teacher is easy to understand c) My teacher gives me interesting things to do d) My teacher has clear answers to my questions e) My teacher is good at explaining mathematics f) My teacher lets me show what I have learned g) My teacher does a variety of things to help us learn h) My teacher tells me how to do better when I make a mistake i) My teacher listens to what I have to say j) My teacher links new lessons to what I already know k) My teacher explains a topic again when we don't understand l) My teacher lets me explain why my answer is correct m) My teacher asks me to conduct science experiments 	SQIS-23	<p><i>Note: Deleted seven dimensions</i></p> <p>How much do you agree with these statements about your <u>science lessons</u>? <i>Fill in only one circle for each row.</i></p> <ul style="list-style-type: none"> 1. Agree a lot 2. Agree a little 3. Disagree a little 4. Disagree a lot <ul style="list-style-type: none"> a) I know what my teacher expects me to do b) My teacher is easy to understand c) My teacher has clear answers to my questions d) My teacher is good at explaining science e) My teacher does a variety of things to help us learn f) My teacher links new lessons to what I already know g) My teacher explains a topic again when we don't understand

APPENDIX C.3: SUMMARY OF 2019 INTERNATIONAL MS CHANGES TO TIMSS INSTRUMENTS

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	n) My teacher encourages me to discuss the results of our science experiments		