TIMSS 2011

Teacher Questionnaire
Mathematics

\<Grade 8\>

\<TIMSS National Research Center Name\>
\<Address\>

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

Teacher *Questionnaire*

Your school has agreed to participate in TIMSS 2011 (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 more than 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 45 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 2011

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 <u>highest</u> level of formal education you have completed?

*Check **one** circle only.*

Did not complete <ISCED Level 3> --- ◯
Finished <ISCED Level 3> --- ◯
Finished <ISCED Level 4> --- ◯
Finished <ISCED Level 5B> --- ◯
Finished <ISCED Level 5A, first degree> --- ◯
Finished <ISCED Level 5A, second degree> or higher --- ◯

5 ▬▬▬▬▬▬▬▬▬▬▬▬▬

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

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

	Yes	No
a) Mathematics	◯	◯
b) Biology	◯	◯
c) Physics	◯	◯
d) Chemistry	◯	◯
e) <Earth Science>	◯	◯
f) Education–Mathematics	◯	◯
g) Education–Science	◯	◯
h) Education–General	◯	◯
i) Other	◯	◯

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' job satisfaction ⬭ ⬭ ⬭ ⬭ ⬭

b) Teachers' understanding of the school's curricular goals ⬭ ⬭ ⬭ ⬭ ⬭

c) Teachers' degree of success in implementing the school's curriculum ⬭ ⬭ ⬭ ⬭ ⬭

d) Teachers' expectations for student achievement ⬭ ⬭ ⬭ ⬭ ⬭

e) Parental support for student achievement ⬭ ⬭ ⬭ ⬭ ⬭

f) Parental involvement in school activities ⬭ ⬭ ⬭ ⬭ ⬭

g) Students' regard for school property ⬭ ⬭ ⬭ ⬭ ⬭

h) Students' desire to do well in school ⬭ ⬭ ⬭ ⬭ ⬭

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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 ⬭ ⬭ ⬭ ⬭

8

In your current school, how severe is each problem?

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

Not a problem
Minor problem
Moderate problem
Serious problem

a) The school building needs significant repair ⬭ ⬭ ⬭ ⬭

b) Classrooms are overcrowded ⬭ ⬭ ⬭ ⬭

c) Teachers have too many teaching hours ⬭ ⬭ ⬭ ⬭

d) Teachers do not have adequate workspace for preparation, collaboration, or meeting with students ⬭ ⬭ ⬭ ⬭

e) Teachers do not have adequate instructional materials and supplies ⬭ ⬭ ⬭ ⬭

9

A. Do you use computers in your teaching in any of the following ways?

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

Yes

No

a) For preparation ------------------------------ ◯ — ◯

b) For administration ---------------------------- ◯ — ◯

c) In your classroom instruction ------------------ ◯ — ◯

If Yes to "classroom instruction"

B. How much do you agree with the following statements about using computers in your classroom instruction?

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

Agree a lot

Agree a little

Disagree a little

Disagree a lot

a) I feel comfortable using computers in my teaching ---- ◯ — ◯ — ◯ — ◯

b) When I have technical problems, I have ready access to computer support staff in my school ----- ◯ — ◯ — ◯ — ◯

c) I receive adequate support for integrating computers in my teaching activities ------------- ◯ — ◯ — ◯ — ◯

10

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

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

Never or almost never

2 or 3 times per month

1–3 times per week

Daily or almost daily

a) Discuss how to teach a particular topic -------------- ◯ — ◯ — ◯ — ◯

b) Collaborate in planning and preparing instructional materials ---------------------- ◯ — ◯ — ◯ — ◯

c) Share what I have learned about my teaching experiences ---------- ◯ — ◯ — ◯ — ◯

d) Visit another classroom to learn more about teaching - ◯ — ◯ — ◯ — ◯

e) Work together to try out new ideas -------------- ◯ — ◯ — ◯ — ◯

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How much do you agree with the following statements?

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

Agree a lot

Agree a little

Disagree a little

Disagree a lot

a) I am content with my profession as a teacher -------------------- ◯ — ◯ — ◯ — ◯

b) I am satisfied with being a teacher at this school ---------- ◯ — ◯ — ◯ — ◯

c) I had more enthusiasm when I began teaching than I have now --------------------- ◯ — ◯ — ◯ — ◯

d) I do important work as a teacher --------------------- ◯ — ◯ — ◯ — ◯

e) I plan to continue as a teacher for as long as I can ---- ◯ — ◯ — ◯ — ◯

f) I am frustrated as a teacher --- ◯ — ◯ — ◯ — ◯

12

How many students are in this class?

_____ students
Write in a number.

13

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

_____ students in this class
Write in a number.

14

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

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

Every or almost every lesson

About half the lessons

Some lessons

Never

a) Summarize what students should have learned from the lesson -------------------- ◯ — ◯ — ◯ — ◯

b) Relate the lesson to students' daily lives ----------- ◯ — ◯ — ◯ — ◯

c) Use questioning to elicit reasons and explanations ----- ◯ — ◯ — ◯ — ◯

d) Encourage all students to improve their performance --- ◯ — ◯ — ◯ — ◯

e) Praise students for good effort -------------------- ◯ — ◯ — ◯ — ◯

f) Bring interesting materials to class ----------------------- ◯ — ◯ — ◯ — ◯

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

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

Not applicable
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 with special needs (e.g., physical disabilities, mental or emotional/ psychological impairment) ---- ◯ — ◯ — ◯ — ◯

e) Disruptive students ------------ ◯ — ◯ — ◯ — ◯

f) Uninterested students --------- ◯ — ◯ — ◯ — ◯

16

For the typical student in this class, how often do you do these things?

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

At least once a week
Once or twice a month
4–6 times a year
1–3 times a year
Never

a) Meet or talk individually with the student's parents to discuss his/her learning progress -------------- ◯ — ◯ — ◯ — ◯ — ◯

b) Send home a progress report on the student's learning ---------------------- ◯ — ◯ — ◯ — ◯ — ◯

Questions 17-19 ask about mathematics instruction for the <u>eighth-grade</u> students in the TIMSS class.

17

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

_____hours and _____minutes per week

Write in the hours and minutes.

18

In teaching mathematics to this class, how confident do you feel to do the following?

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

	Very confident	Somewhat confident	Not confident
a) Answer students' questions about mathematics	◯	◯	◯
b) Show students a variety of problem solving strategies	◯	◯	◯
c) Provide challenging tasks for capable students	◯	◯	◯
d) Adapt my teaching to engage students' interest	◯	◯	◯
e) Help students appreciate the value of learning mathematics	◯	◯	◯

19

In teaching mathematics to this class, how often do you usually 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 how to solve problems	◯	◯	◯	◯
b) Memorize rules, procedures, and facts	◯	◯	◯	◯
c) Work problems (individually or with peers) with my guidance	◯	◯	◯	◯
d) Work problems together in the whole class with direct guidance from me	◯	◯	◯	◯
e) Work problems (individually or with peers) while I am occupied by other tasks	◯	◯	◯	◯
f) Apply facts, concepts, and procedures to solve routine problems	◯	◯	◯	◯
g) Explain their answers	◯	◯	◯	◯
h) Relate what they are learning in mathematics to their daily lives	◯	◯	◯	◯
i) Decide on their own procedures for solving complex problems	◯	◯	◯	◯
j) Work on problems for which there is no immediately obvious method of solution	◯	◯	◯	◯
k) Take a written test or quiz	◯	◯	◯	◯

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When you teach mathematics to this class, how do you use the following resources?

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

Basis for instruction
Supplement
Not used

a) Textbooks ---------------------- ◯ — ◯ — ◯

b) Workbooks or worksheets -------------------- ◯ — ◯ — ◯

c) Concrete objects or materials that help students understand quantities or procedures ------- ◯ — ◯ — ◯

d) Computer software for mathematics instruction------- ◯ — ◯ — ◯

21

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

*Check **one** circle only.*

Yes, with unrestricted use --- ◯

Yes, with restricted use --- ◯

No, calculators are not permitted - ◯ ⟶

(If No, go to #22)

If Yes,

B. How often do students in this class use calculators in their mathematics lessons for the following activities?

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

Every or almost every lesson
About half the lessons
Some lessons
Never

a) Check answers ----------------- ◯ — ◯ — ◯ — ◯

b) Do routine computations ------ ◯ — ◯ — ◯ — ◯

c) Solve complex problems ------- ◯ — ◯ — ◯ — ◯

d) Explore number concepts ------ ◯ — ◯ — ◯ — ◯

22

A. Do the students in this class have computer(s) available to use during their mathematics lessons?

*Check **one** circle only.*

Yes --- ◯

No --- ◯ ⟶

(If No, go to #23)

If Yes,

B. Do any of the computer(s) have access to the Internet?

*Check **one** circle only.*

Yes --- ◯

No --- ◯

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

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

	Every or almost every day	Once or twice a week	Once or twice a month	Never or almost never
a) Explore mathematics principles and concepts	◯	◯	◯	◯
b) Practice skills and procedures	◯	◯	◯	◯
c) Look up ideas and information	◯	◯	◯	◯
d) Process and analyze data	◯	◯	◯	◯

Questions 23–24 ask about the topics taught and the content covered in teaching mathematics to the <u>eighth-grade</u> students in the TIMSS class.

23

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 <u>eighth grade</u>, 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, estimating, or approximating with whole numbers	◯	◯	◯
b) Concepts of fractions and computing with fractions	◯	◯	◯
c) Concepts of decimals and computing with decimals	◯	◯	◯
d) Representing, comparing, ordering, and computing with integers	◯	◯	◯
e) Problem solving involving percents and proportions	◯	◯	◯
B. Algebra			
a) Numeric, algebraic, and geometric patterns or sequences (extension, missing terms, generalization of patterns)	◯	◯	◯
b) Simplifying and evaluating algebraic expressions	◯	◯	◯
c) Simple linear equations and inequalities	◯	◯	◯
d) Simultaneous (two variables) equations	◯	◯	◯
e) Representation of functions as ordered pairs, tables, graphs, words, or equations	◯	◯	◯
C. Geometry			
a) Geometric properties of angles and geometric shapes (triangles, quadrilaterals, and other common polygons)	◯	◯	◯
b) Congruent figures and similar triangles	◯	◯	◯
c) Relationship between three-dimensional shapes and their two-dimensional representations	◯	◯	◯
d) Using appropriate measurement formulas for perimeters, circumferences, areas, surface areas, and volumes	◯	◯	◯
e) Points on the Cartesian plane	◯	◯	◯
f) Translation, reflection, and rotation	◯	◯	◯
D. Data and Chance			
a) Reading and displaying data using tables, pictographs, bar graphs, pie charts, and line graphs	◯	◯	◯
b) Interpreting data sets (e.g., draw conclusions, make predictions, and estimate values between and beyond given data points)	◯	◯	◯
c) Judging, predicting, and determining the chances of possible outcomes	◯	◯	◯

24

By the end of this school year, approximately what percentage of teaching time for mathematics will you have spent during this school year on each of the following mathematics content areas for the students in this class?

Write in the percentage for each.

a) Number (e.g., whole numbers, fractions, decimals, ratio, proportion and percent)--- _____%

b) Algebra (e.g., patterns, equations, formulas and relationships) --------------------------- _____%

c) Geometry (e.g., lines and angles, shapes, congruence and similarity, spatial relationships, symmetry and transformations)------------------------ _____%

d) Data and chance (e.g., reading, organizing and representing data, data interpretation and chance) ------------------------ _____%

e) Other --- _____%

Total = 100%

25

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 #26)

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.*

Always or almost always

  Sometimes

    Never or almost never

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

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

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

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

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

Questions 26–28 ask about mathematics assessment for the <u><eighth-grade></u> students in the TIMSS class.

26

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

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

Major emphasis
Some emphasis
Little or no emphasis

a) Evaluation of students' ongoing work ------------------ ◯ — ◯ — ◯

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

c) National or regional achievement tests ------------- ◯ — ◯ — ◯

27

How often do you give a mathematics test or examination to this class?

*Check **one** circle only.*

About once a week --- ◯

About every two weeks --- ◯

About once a month --- ◯

A few times a year --- ◯

Never --- ◯

28

How often do you include the following types of questions in your mathematics tests or examinations?

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

Always or almost always
Sometimes
Never or almost never

a) Questions based on recall of facts and procedures -------- ◯ — ◯ — ◯

b) Questions involving application of mathematical procedures --------------------- ◯ — ◯ — ◯

c) Questions involving searching for patterns and relationships ------------- ◯ — ◯ — ◯

d) Questions requiring explanations or justifications ------------------- ◯ — ◯ — ◯

29

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

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

Yes

No

a) Mathematics content --------------------------- ◯ — ◯

b) Mathematics pedagogy/instruction ------------ ◯ — ◯

c) Mathematics curriculum ----------------------- ◯ — ◯

d) Integrating information technology
   into mathematics ------------------------------- ◯ — ◯

e) Improving students' critical thinking or
   problem solving skills --------------------------- ◯ — ◯

f) Mathematics assessment ----------------------- ◯ — ◯

g) Addressing individual students' needs ---------- ◯ — ◯

30

How well prepared do you feel you are to teach the following mathematics topics?
If a topic is not in the <u>eighth-grade</u> curriculum or you are not responsible for teaching this topic, Please choose "Not applicable."

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

Not applicable
    Very well prepared
        Somewhat prepared
            Not well prepared

A. Number

a) Computing, estimating, or approximating with whole numbers ⚪—⚪—⚪—⚪

b) Concepts of fractions and computing with fractions ⚪—⚪—⚪—⚪

c) Concepts of decimals and computing with decimals ⚪—⚪—⚪—⚪

d) Representing, comparing, ordering, and computing with integers ⚪—⚪—⚪—⚪

e) Problem solving involving percents and proportions ⚪—⚪—⚪—⚪

B. Algebra

a) Numeric, algebraic, and geometric patterns or sequences (extension, missing terms, generalization of patterns) ⚪—⚪—⚪—⚪

b) Simplifying and evaluating algebraic expressions ⚪—⚪—⚪—⚪

c) Simple linear equations and inequalities ⚪—⚪—⚪—⚪

d) Simultaneous (two variables) equations ⚪—⚪—⚪—⚪

e) Representation of functions as ordered pairs, tables, graphs, words, or equations ⚪—⚪—⚪—⚪

C. Geometry

a) Geometric properties of angles and geometric shapes (triangles, quadrilaterals, and other common polygons) ⚪—⚪—⚪—⚪

b) Congruent figures and similar triangles ⚪—⚪—⚪—⚪

c) Relationship between three−dimensional shapes and their two−dimensional representations ⚪—⚪—⚪—⚪

d) Using appropriate measurement formulas for perimeters, circumferences, areas, surface areas, and volumes ⚪—⚪—⚪—⚪

e) Points on the Cartesian plane ⚪—⚪—⚪—⚪

f) Translation, reflection, and rotation ⚪—⚪—⚪—⚪

D. Data and Chance

a) Reading and displaying data using tables, pictographs, bar graphs, pie charts, and line graphs ⚪—⚪—⚪—⚪

b) Interpreting data sets (e.g., draw conclusions, make predictions, and estimate values between and beyond given data points) ⚪—⚪—⚪—⚪

c) Judging, predicting, and determining the chances of possible outcomes ⚪—⚪—⚪—⚪

Thank You

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

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<Grade 8>