DRAFT

Identification Label

Teacher Name:

Class Name:

Teacher ID:

Teacher Link #:

OMB # to go here

TIMSS 2011

Field Test Version

Teacher Questionnaire

Mathematics

Grade 8

National Center for Education Statistics
U.S. Department of Education
1990 K St., NW
Washington, DC 20006

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 the United States.

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 the United States. 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 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 the School Coordinator.

NCES is authorized to collect information from this questionnaire under the Education Sciences Reform Act of 2002 (Public Law 107-279, Section 153). You do not have to provide the information requested. However, the information you provide will help the U.S. Department of Education's ongoing efforts to understand better how the educational system in the United States compares to that in other countries. There are no penalties should you choose not to participate in this study. Your answers may be used only for statistical purposes and may not be disclosed, or used, in identifiable form for any other purpose (Public Law 107-279, Section 183 and Title V, subtitle A of the E-Government Act of 2002 (P.L. 107-347)). Your responses will be combined with those from other participants to produce summary statistics and reports.

This survey is estimated to take an average of 30 minutes, including time for reviewing instructions, and completing and reviewing the collection of information. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to: Stephen Provasnik, National Center for Education Statistics, U.S. Department of Education, 1990 K Street NW, Room 9034, Washington, DC 20006-5650. Do not return the completed form to this address.

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 highest level of formal education you have completed?

*Check **one** circle only.*

Did not complete high school --◯
Completed high school --◯
Completed a vocational/technical certificate after high school --◯
Completed an Associate's degree (AA) in vocational/technical program --◯
Completed an Associate's degree (AA) or Bachelor's degree --◯
Completed an academic Master's degree, postgraduate certificate program (e.g., teaching) or first professional degree (e.g., law, medicine, dentistry) --◯
Completed a doctorate (Ph.D. or Ed.D) --◯

5

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

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

	Yes	No
a) Mathematics	◯	◯
b) Education - Mathematics	◯	◯
c) Science	◯	◯
d) Education - Science	◯	◯
e) Education - General	◯	◯
f) 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	○	○	○	○	○

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	○	○	○	○

8

In your current school, how severe is each problem?

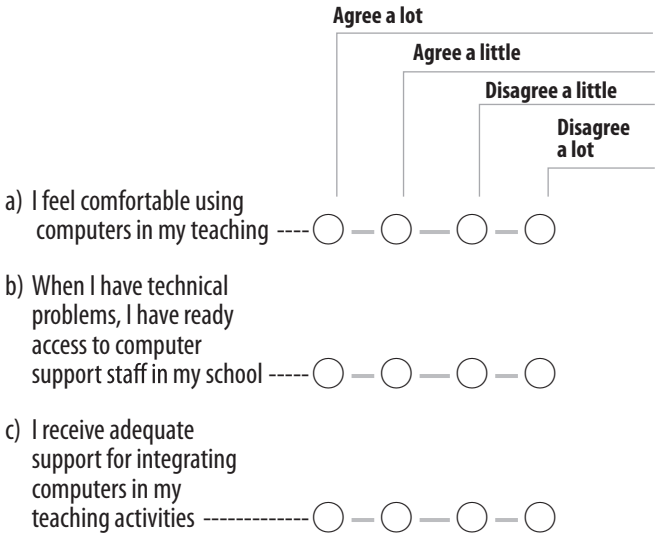
*Check **one** circle for each line.*

	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

How much do you agree with the following statements about using computers in your teaching?

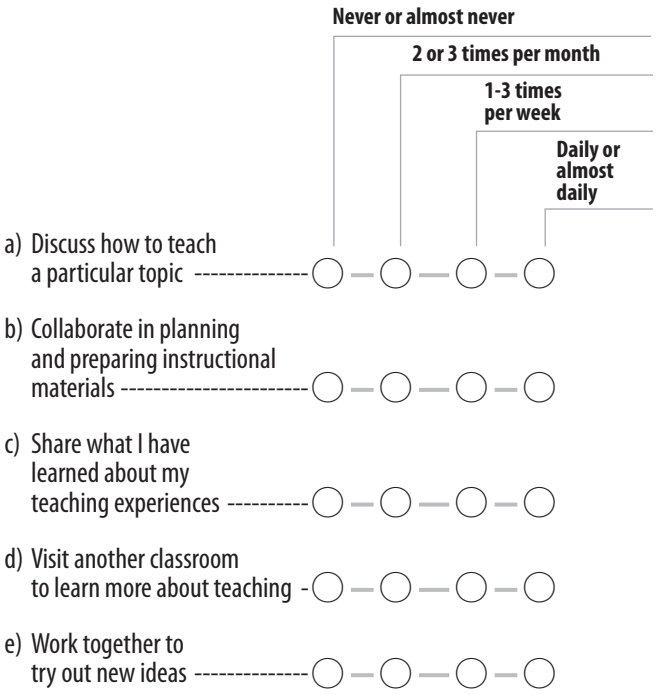
*Check **one** circle for each line.*



10

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

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



11

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 students experience difficulties understanding <u>spoken</u> English?

_____ eighth-grade 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 current events	○	○	○	○
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	○	○	○	○

15

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 life	◯	◯	◯	◯
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	◯	◯	◯	◯

Questions 20-22 ask about resources for teaching mathematics to the eighth-grade students in the TIMSS class.

20

When you teach mathematics to this class, how often 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 (e.g., CD, DVD, Internet)	○	○	○

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)**

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)**

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?

*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) Look up ideas and information	◯	◯	◯	◯
b) Use instructional software to develop and practice skills and procedures	◯	◯	◯	◯
c) Explore mathematics principles and concepts	◯	◯	◯	◯
d) Use the school website for homework assignments	◯	◯	◯	◯

Questions 23-24 ask about the topics taught and the content covered in teaching mathematics to the eighth-grade 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 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 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, please specify:

_____ ---------- _____%

Total = 100%

Question 25 asks about mathematics homework for the eighth-grade students in the TIMSS class.

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 eighth-grade 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) State or district achievement tests	◯	◯	◯

27

How often do you give a mathematics test or examination to this class? (Do not include quizzes.)

*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? Do not include quizzes.

*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 curriculum or you are not responsible for teaching this topic you may check "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	○	○	○	○

[The following questions are national options that will be added to the questionnaire. They will be formatted and appropriately placed among the existing items.]

1. Mathematics course currently being taught

What mathematics course are you teaching to the TIMSS class?

Fill in one circle only.

- Basic or general eighth-grade math (not algebra or pre-algebra)---------- O
- Introduction to algebra or pre-algebra ---------- O
- Two-year pre-algebra ---------- O
- Algebra I (one-year course)---------- O
- Algebra I (first year of a two-year Algebra I course) -----O
- Algebra I (second year of two-year Algebra I course)---O
- Geometry ---------- O
- Algebra II ---------- O
- Integrated or sequential math---------- O
- Other math class ---------- O

Thank You

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

TIMSS & PIRLS International Study Center
Lynch School of Education, Boston College
timssandpirls.bc.edu

BOSTON COLLEGE

DRAFT

TIMSS 2011

Field Test Version

Teacher Questionnaire

Mathematics

Grade 8

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Educational Achievement