



IEA

**TIMSS**  
LONGITUDINAL

2023–2024

Identification Label

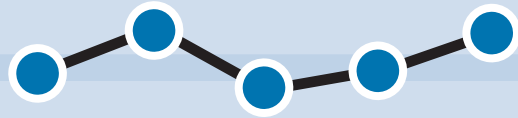
TRENDS IN INTERNATIONAL MATHEMATICS AND SCIENCE STUDY

# Teacher Questionnaire Mathematics

<Grade 9>

<TIMSS National Research Center Name>

<Address>



IEA

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

# Teacher Questionnaire

Some of your students have been selected to participate in the TIMSS 2023 (Trends in International Mathematics and Science Study) Longitudinal Study, an educational research project sponsored by the International Association for the Evaluation of Educational Achievement (IEA). TIMSS 2023 Longitudinal follows students for one year (from 2023 to 2024) to measure learning gains in mathematics and science and studies differences in national education systems in countries to help improve teaching and learning worldwide.

This questionnaire is addressed to teachers of the <ninth grade> students who participated in the TIMSS 2023 data collection during the last school year and who are currently participating in the TIMSS 2023 Longitudinal data collection in 2024. This questionnaire seeks information about teachers' academic and professional backgrounds, classroom resources, and instructional practices. Since these students have been selected as part of a nationwide sample, your responses are very important in helping to describe secondary education in <country>, and to explain students' learning gains.

<You may have completed a similar questionnaire last school year as part of data collection for TIMSS 2023; if this is the case, we ask that you please complete this follow-up questionnaire to help us measure school factors related to students' learning gains and achievement over time.>

Some of the questions in the questionnaire refer to the <"**TIMSS class** that" or the "**TIMSS students** who"> will be tested as part of TIMSS 2023 Longitudinal. This is the class that is identified on the front of this booklet. Please keep this group in mind when responding to 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 2023 LONGITUDINAL

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

Which of these describes you?

Check **one** circle only.

- Female --- ☐
- Male --- ☐
- <Other> --- ☐

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"/>

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"/>

7

How often do you have these feelings 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"/>
f) I feel appreciated as a teacher -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g) I enjoy the challenges of teaching -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

8

How many students are in <this class>?

\_\_\_\_\_ students  
Write in the number.

9

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

\_\_\_\_\_ students in this class  
Write in the number.

10

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) Communicate goals or objectives for the lesson to the students ----- ☐ — ☐ — ☐ — ☐
- 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 ----- ☐ — ☐ — ☐ — ☐

11

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) Distracted students ----- ☐ — ☐ — ☐
- h) Students with mental, emotional, or psychological impairment ----- ☐ — ☐ — ☐
- i) Students with difficulties understanding the language of instruction ----- ☐ — ☐ — ☐

## 12

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.

## 13

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 -- ☐ — ☐ — ☐ — ☐

**In teaching mathematics to this class, how confident do you feel about your ability to do the following?**

Check **one** circle for each line.

	Very confident	Somewhat confident	Not confident
a) Help students appreciate the value of learning mathematics -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) Show students a variety of problem-solving strategies -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) Adapt teaching to engage students' interests -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) Develop students' higher-order thinking skills -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) Make mathematics relevant to students -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f) Provide challenging mathematics activities for excelling students -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g) Improve mathematics understanding of struggling students -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h) Assess students' comprehension of mathematics content -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

15

**A. Do the students in this class have digital devices (including computers, tablets, or smartphones) available to use during mathematics lessons?**

Check **one** circle only.

Yes --- ☐

No --- ☐

(If No, go to #16)

**If Yes,**

**B. What access do the students have to digital devices?**

Check **one** circle for each line.

Yes

No

a) The class has digital devices for each student to use ----- ☐ — ☐

b) The class has digital devices that students can share ----- ☐ — ☐

c) The school has digital devices that the class can use sometimes ----- ☐ — ☐

d) Students bring their own digital devices ----- ☐ — ☐

**C. How often do you have students use digital devices during mathematics instruction?**

Check **one** circle only.

At least once a week --- ☐

Once or twice a month --- ☐

A few times a year --- ☐

Never or almost never --- ☐

**D. How often do you ask the students in your class to use digital devices to do these mathematics activities?**

Check **one** circle for each line.

At least once a week

Once or twice a month

A few times a year

Never or almost never

a) Practice problems and procedures ----- ☐ — ☐ — ☐ — ☐

b) Solve extended or contextualized problems ----- ☐ — ☐ — ☐ — ☐

c) Create graphs, tables, or other data displays ----- ☐ — ☐ — ☐ — ☐

d) Play games involving mathematics calculations or concepts ----- ☐ — ☐ — ☐ — ☐

e) Read the textbook or watch instructional videos ----- ☐ — ☐ — ☐ — ☐

f) Take a test ----- ☐ — ☐ — ☐ — ☐



The following list includes topics addressed by the TIMSS mathematics test. Choose the response that best describes when each topic is taught for students in this class.

If a topic was in the curriculum before <ninth grade>, choose “Mostly taught before this year.” If you have taught a topic this year, choose “Mostly taught this year.” If a topic is not in the <ninth grade> curriculum for this year or you have not yet taught a topic, choose “Not yet taught.”

Check **one** circle for each line.

Mostly taught before this year

Mostly taught this year

Not yet taught

### A. Number

- a) Add and subtract positive and negative numbers ----- ☐ — ☐ — ☐
- b) Find and use factors, multiples, positive powers, or square roots of positive whole numbers ----- ☐ — ☐ — ☐
- c) Compare fractions and decimals ----- ☐ — ☐ — ☐
- d) Add, subtract, and multiply with fractions and decimals ----- ☐ — ☐ — ☐
- e) Divide fractions and decimals by a whole number ----- ☐ — ☐ — ☐
- f) Determine proportions and ratios ----- ☐ — ☐ — ☐
- g) Find percentages and convert between percentages and fractions/decimals ----- ☐ — ☐ — ☐

### B. Algebra

- a) Simplify and compare algebraic expressions ----- ☐ — ☐ — ☐
- b) Solve simple linear equations ----- ☐ — ☐ — ☐
- c) Solve simple linear inequalities ----- ☐ — ☐ — ☐
- d) Solve simultaneous linear equations (two variables) ----- ☐ — ☐ — ☐
- e) Write expressions, equations, or inequalities to represent problems ----- ☐ — ☐ — ☐
- f) Interpret linear functions in graphs, tables, or words ----- ☐ — ☐ — ☐
- g) Interpret simple non-linear functions (e.g., quadratic, cubic) in graphs, tables, or words ----- ☐ — ☐ — ☐
- h) Generalize linear and non-linear pattern relationships or sequences ----- ☐ — ☐ — ☐

### C. Geometry and Measurement

- a) Read and plot points in the Cartesian plane ----- ☐ — ☐ — ☐
- b) Recognize and draw different types of angles and lines ----- ☐ — ☐ — ☐
- c) Use geometric properties of polygons to calculate lengths, perimeter, and area (including the Pythagorean Theorem) ----- ☐ — ☐ — ☐
- d) Determine the results of geometric translation, reflection, and rotation ----- ☐ — ☐ — ☐
- e) Use properties of similar and congruent figures ----- ☐ — ☐ — ☐
- f) Calculate surface area and volume of common three-dimensional shapes ----- ☐ — ☐ — ☐


### D. Data and Probability

- a) Interpret data from one or more data sources ----- ☐ — ☐ — ☐
- b) Represent data in graphs, charts, or plots ----- ☐ — ☐ — ☐
- c) Calculate and interpret the mean or median of a data distribution ----- ☐ — ☐ — ☐
- d) Calculate probabilities of simple and compound events ----- ☐ — ☐ — ☐

**17**

**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 #18)

Less than once a week --- ☐

1 or 2 times a week --- ☐

3 or 4 times a week --- ☐

Every day --- ☐

**B. 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 ----- ☐ — ☐ — ☐

**C. When you assign homework in mathematics, how long do you expect it will take the average student in your class to complete?**

Check **one** circle only.

15 minutes or less --- ☐

16-30 minutes --- ☐

31-60 minutes --- ☐

More than 60 minutes --- ☐

**18**

**How much importance do you place on these strategies to assess students' learning in mathematics?**

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 ----- ☐ — ☐ — ☐

19

**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

- 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 ----- ☐ — ☐ ----- ☐ — ☐

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

Check **one** circle  
for each line.

Yes  
No

# Thank You

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

---





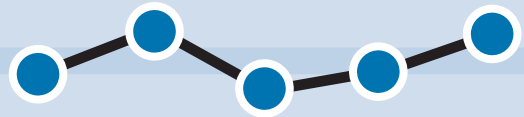




BOSTON  
COLLEGE

[timss.bc.edu](http://timss.bc.edu)

<Grade 9>



© IEA, 2023

International Association  
for the Evaluation of  
Educational Achievement