Trends in International Mathematics and Science Study (TIMSS 2023)
Field Test Data Collection and Main Study Sampling and Recruitment - FT International Questionnaire Update OMB #1850-0695 v.18

Appendix C
TIMSS 2023 Draft Field Test Questionnaires

Submitted by National Center for Education Statistics U.S. Department of Education

June 2021 revised August 2021 revised November 2021 This appendix provides the final international TIMSS 2023 field test questionnaires. Final U.S. field test questionnaires, adapted for use within the U.S. education context and approved by IEA, will be provided via change memo in January 2022.

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Identification Label

TRENDS IN INTERNATIONAL MATHEMATICS AND SCIENCE STUDY

## Student Questionnaire

## <Grade 4>

<TIMSS National Research Center Name>
<Address>



## Field Test Version



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 -- A

No -- A

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

## Example 2

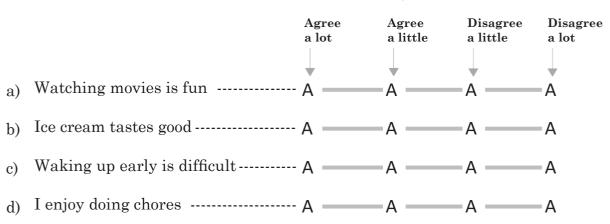
How often do you do these things?

		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	A ——	- A	-A	– A
b)	I play sports	Α	Α	-A	-A
c)	I ride a skateboard	Α	Α	-A	— A

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.



- 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: X 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 \_\_\_\_

#### Which of these describes you?

Fill **one** circle only.

Girl -- A

Boy -- **A** 

<Other> -- A

## G2.

#### When were you born?

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

a) Month	b) Year
January A	2010 A
February A	2011 A
March A	2012 A
April A	2013 A
May <b>A</b>	2014 A
June A	2015 A
July A	2016 A
August A	Other A
September A	
October A	
November A	
December A	

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

Fill **one** circle only.

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

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

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

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

## 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) -- A This shows 10 books

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

This shows 25 books

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

This shows 100 books

Lichtelichtelichtelichtelicht Lichtelichtelichtelichtelichte Lichtelichtelichtelichtelichte Lichtelichtelichtelichtelichte

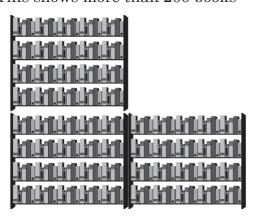
Enough to fill two bookcases (101–200 books) -- A

This shows 200 books



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

This shows more than 200 books



## Do you have any of these things at your home?

		Yes	No
a)	Your own computer or tablet	Ă	— A
b)	A shared computer or tablet you can use	А	— А
c)	Your own smartphone	А	—
d)	A shared smartphone you can use	А	A
e)	Access to the internet	A	A
f)	Study desk/table for your use	A	A
g)	Your own room	A	Α
h)	<pre><country-specific indicator="" of="" wealth=""></country-specific></pre>	A	A
i)	<pre><country-specific indicator="" of="" wealth=""></country-specific></pre>	A	A
j)	<pre><country-specific indicator="" of="" wealth=""></country-specific></pre>	A	A
k)	<pre><country-specific indicator="" of="" wealth=""></country-specific></pre>	A	A

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 -- A

No -- A

I don't know -- A

Not applicable -- A

#### B. <Parent/Guardian B>

Fill **one** circle only.

Yes -- A

No -- A

I don't know -- A

Not applicable -- A

## Were you born in <country>?

Fill **one** circle only.

Yes--A

No -- A

#### About how often are you absent from school?

Fill **one** circle only.

Once a week -- A

Once every two weeks -- A

Once a month -- A

Once every two months -- A

Never or almost never -- A

G9

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

		Every day	Almost every day	Sometimes	Never
a)	I feel tired	A	A	A	A
b)	I feel hungry	Α	_A	— A ——	—A

## How much do you agree with these statements?

		Agree a lot	Agree a little	Disagree a little	Disagree a lot
a)	I can write and edit text on a computer, tablet, or smartphone	- A	-A	-A	A
b)	I can create school presentations using a computer, tablet, or smartphone	- A ———	-A	-A	- A
c)	I can create tables, charts, and graphs using a computer, tablet, or smartphone	- A ——	-A	-A	- A
d)	I can find information that I need online	- A ——	-A	-A	A
e)	I can tell if a website is trustworthy	- A ——	-A	-A	A
f)	I can easily do new things on computers, laptops, or smartphones	- A ———	-A	-A	- A
g)	I can help my friends or family members with using their computers, laptops, or smartphones	- A ——	-A	-A	- A

## Your School

## G11 \_\_\_

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

		Agree a lot	Agree a little	_	Disagree a lot
a)	I like being in school	Ă	Α	Α	A
b)	I feel safe when I am at school	Α	Α	Α	A
c)	I feel like I belong at this school	Α	Α	Α	A
d)	Teachers at this school care about me	Α	Α	Α	A
e)	I am proud to go to this school	Α	Α	Α	A
f)	I have friends at this school	Α	Α	Α	A
g)	Students in this school respect me	Α	Α	Α	A
h)	Students at this school like me the way I am	Α	Α	Α	A

## G12 \_\_\_

During this school year, how often have other students from your school done any of the following things to you in person, through messaging, or through social media?

		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	A	A	- A	A
b)	Left me out of their games or activities	Α	Α	Α	A
c)	Spread lies about me	Α	Α	Α	A
d)	Stole something from me	Α	Α	Α	Α
e)	Damaged something of mine on purpose	Α	Α	Α	A
f)	Hit or hurt me (e.g., shoving, hitting, kicking)	Α	Α	Α	A
g)	Made me do things I didn't want to do	Α	Α	Α	A
h)	Sent me nasty or hurtful messages online	Α	Α	Α	A
i)	Shared nasty or hurtful things about me online	Α	Α	Α	A
j)	Shared embarrassing photos of me online	Α	Α	Α	A
k)	Threatened me	Α	Α	Α	A

## **Mathematics in School**

## MS1 \_\_

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

Fill **one** circle only.

Every or almost every lesson -- A

About half the lessons --  ${\sf A}$ 

Some lessons -- A

Never -- A

## MS2 \_\_\_\_

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

a)	I enjoy learning mathematics	Agree a lot		a little	<b>↓</b>
b)	I do not like doing mathematics	Α	Α	Α	A
c)	Mathematics is boring	Α	Α	Α	A
d)	I learn many interesting things in mathematics	A	Α	Α	A
e)	I like mathematics	· A	Α	Α	A
f)	I like any schoolwork that involves numbers	- A	Α	Α	A
g)	I like to solve mathematics problems	- A	Α	Α	A
h)	I look forward to mathematics lessons	- А	Α	Α	A
i)	Mathematics is one of my favorite subjects	- A	Α	Α	A

## MS3

## How much do you agree with these statements about your <u>mathematics lessons</u>?

a)	My teacher makes it clear what	Agree a lot	Agree a little	Disagree a little	
	we should learn in each lesson		Α	Α	A
b)	My teacher is easy to understand	Α ———	Α ——	Α ——	Α
c)	My teacher has clear answers to my questions	Α ———	Α	Α	Α
d)	My teacher is good at explaining mathematics	Α	Α	Α	Α
e)	My teacher does a variety of things to help us learn	Α	Α	Α	Α
f)	My teacher explains a topic again when we don't understand	Α	Α	Α	Α
g)	My teacher gives me helpful feedback on my work	Α	Α	Α	Α
h)	My teacher asks me to show what I have learned	Α	Α	Α	Α
i)	My teacher asks me to explain my answers	Α	Α	Α	Α

## MS4 \_\_\_\_

## How often do these things happen in your mathematics lessons?

		Every or almost every lesson	About half the lessons	Some lessons	Never
a)	Students don't listen to what the teacher says	A	_A	_A	A
b)	There is too much noise for students to work well	- А ——	_A	—A —	— A
c)	My teacher has to wait a long time for students to be quiet	- А ——	_A	—A —	—А
d)	Students interrupt the teacher	A	_A	—A —	— A
e)	Students do not follow the classroom rules	А	—А ——	—A —	— A
f)	Other students' behavior makes it hard for me to concentrate	A	—А ——	—А —	—А

## MS5 \_\_\_\_

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

		Agree a lot	Agree a little	0	Disagree a lot
a)	I usually do well in mathematics	A	A	A	A
b)	Mathematics is harder for me than for many of my classmates	Α	Α	Α	A
c)	I am just not good at mathematics -	Α	Α	Α	Α
d)	Mathematics is easy for me	Α ——	Α	Α	Α
e)	I am good at working out difficult mathematics problems	Α	Α	Α	Α
f)	I am good at explaining mathematics to others	Α ——	Α	Α	Α
g)	Mathematics is harder for me than any other subject	Α	Α	Α	Α
h)	Mathematics makes me confused	Α	Α	Α	Α

## 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 -- A

Once or twice a month -- A

A few times a year -- A

Never -- A

## MS7 \_\_\_\_

## How much do you agree with these statements about learning science?

a)	I enjoy learning science	Agree a lot	a little	Disagree a little	a lot
b)	I do not like doing science	Α	Α	Α	A
c)	Science is boring	Α	Α	Α	A
d)	I learn many interesting things in science	Α	Α	Α	A
e)	I like science	Α	Α	Α	A
f)	I look forward to learning science in school	Α	Α	Α	-A
g)	Science teaches me how things in the world work	Α	Α	Α	A
h)	I like to do science experiments	Α	Α	Α	A
i)	Science is one of my favorite subjects	Α	Α	- A	- A

## MS8 \_\_\_\_

## How much do you agree with these statements about your <u>science lessons</u>?

		Agree a lot	Agree a little	Disagree a little	0
a)	My teacher makes it clear what we should learn in each lesson	*	A	A	A
b)	My teacher is easy to understand	Α ——	Α	Α	A
c)	My teacher has clear answers to my questions	Α	Α	Α	A
d)	My teacher is good at explaining science	Α	Α	Α	A
e)	My teacher does a variety of things to help us learn	Α	Α	Α	A
f)	My teacher explains a topic again when we don't understand	Α	Α	Α	A
g)	My teacher gives me helpful feedback on my work	Α	Α	Α	A
h)	My teacher asks me to show what I have learned	Α	Α	Α	A
i)	My teacher asks me to explain my answers	Α	Α	Α	A

## MS9 -

## How often do these things happen in your science lessons?

		Every or almost every lesson	About half the lessons	Some lessons	Never
a)	Students don't listen to what the teacher says	- A			— A
b)	There is too much noise for students to work well	- A ——	-A	-A	—А
c)	My teacher has to wait a long time for students to be quiet	- A ——	-A	–А —	— A
d)	Students interrupt the teacher	- A	-A	-A	—A
e)	Students do not follow the classroom rules	- A ——	-A	– А —	—А
f)	Other students' behavior makes it hard for me to concentrate	- A ——	-A	-A	—А

## MS10\_\_\_\_\_

## How much do you agree with these statements about science?

a)	I usually do well in science	Agree a lot	<b></b>	a little	<b>\</b>
b)	Science is harder for me than for many of my classmates	Α	Α	Α	Α
c)	I am just not good at science	Α	Α	Α	Α
d)	Science is easy for me	Α	Α	Α	Α
e)	I am good at explaining science to others	Α ——	Α	Α	Α
f)	Science is harder for me than any other subject	Α	Α	Α	Α
g)	Science makes me confused	Α	Α	Α	Α

## Thank You!

Thank you for filling out the questionnaire!



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## <Grade 4>





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Identification Label

TRENDS IN INTERNATIONAL MATHEMATICS AND SCIENCE STUDY

# **Student Questionnaire**

## <Grade 8>

<TIMSS National Research Center Name>
<Address>



## Field Test Version



## **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 -- A

No -- A

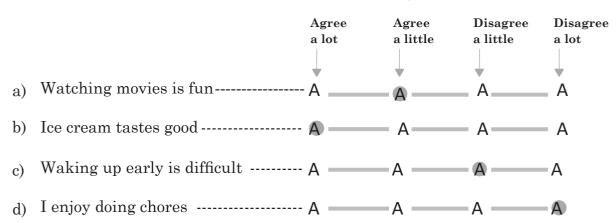
## Example 2

How often do you do these things?

		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	•	A —	Ā	A
b)	I play sports	Α	A	Α	Α
c)	I ride a skateboard	Δ	Δ	Δ	Δ

## Example 3

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



- 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: X 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

## Which of these describes you?

Fill **one** circle only.

2

#### When were you born?

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

a) Month	b) Year
January A	2005 A
February A	2006 A
March A	2007 A
April A	2008 A
May <b>A</b>	2009 A
June A	2010 A
July A	2011 A
August A	2012 A
September A	2013 A
October A	Other A
November A	
December A	

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

Fill **one** circle only.

Always -- A

Almost always -- A

Sometimes -- A

Never -- A

### 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) -- A

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

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

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

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

## Do you have any of these things at your home?

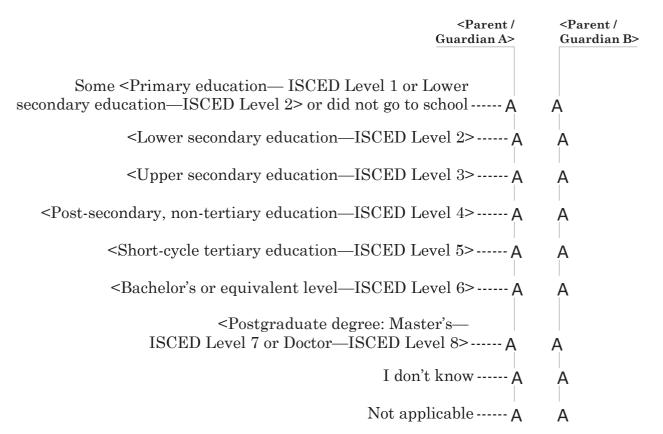
		Yes	No
a)	Your own computer or tablet	A	- A
b)	A shared computer or tablet you can use	A	<b>-</b> A
c)	Your own smartphone	A	A
d)	A shared smartphone you can use	A	A
e)	Access to the internet	A	A
f)	Study desk/table for your use	A	A
g)	Your own room	A	A
h)	<pre><country-specific indicator="" of="" wealth=""></country-specific></pre>	A	- A
i)	<pre><country-specific indicator="" of="" wealth=""></country-specific></pre>	A	A
j)	<pre><country-specific indicator="" of="" wealth=""></country-specific></pre>	A	A
k)	<pre><country-specific indicator="" of="" wealth=""></country-specific></pre>	A	Α

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>?

Check one circle in each column.



#### How far in your education do you expect to go?

8

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

#### A. <Parent/Guardian A>

Fill **one** circle only.

Yes -- A

No -- A

I don't know -- A

Not applicable -- A

#### B. <Parent/Guardian B>

#### Fill **one** circle only.

Yes--A

No -- A

I don't know -- A

Not applicable -- A

#### A. Were you born in <country>?

Fill one circle only.

Yes -- A

(If Yes, go to #10)

No -- A

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 -- A

5 to 10 years old -- A Younger

than 5 years old -- A

10

#### About how often are you absent from school?

Fill one circle only.

Once a week -- A

Once every two weeks -- A

Once a month -- A

Once every two months -- A

Never or almost never -- A

#### 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	A	A	A	A
b)	I feel hungry	Α	— А —	— А ——	—A

### **12**

How often do you use the internet to do the following tasks for mathematics or science schoolwork (including classroom tasks, homework, and studying outside of class)?

 $Fill \ one \ circle \ for \ each \ line.$ 

		At least once a week	Once or twice a month	Never or almost never
a)	Access the textbook or other course materials	A	A	- A
b)	Access assignments posted online by my teacher	- A	Α	- A
c)	Collaborate with classmates on assignments or projects	А ——	Α	A
d)	Ask my teacher questions	Α	Α	A
e)	Find information, articles, or tutorials about mathematics or science	- A	Α	- A
f)	Access learning games or activities related to mathematics or science	A ——	- A	- A

### How much do you agree with these statements?

		Agree a lot	Agree a little	Disagree a little	Disagree a lot
a)	I can write and edit text on a computer, tablet, or smartphone	A	-A	-A	- A
b)	I can create school presentations using a computer, tablet, or smartphone	A	-A	-A	- A
c)	I can create tables, charts, and graphs using a computer, tablet, or smartphone	A	-A	-A	A
d)	I can find information that I need online	A	-A	-A	A
e)	I can tell if a website is trustworthy	А	-A	-A	A
f)	I can easily do new things on computers, laptops, or smartphones	A	-A	-A	A
g)	I can help my friends or family members with using their computers, laptops, or smartphones	A	-A	-A	- A

## **Your School**

### 14 \_\_\_

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

		Agree a lot	0	Disagree a little	Disagree a lot
a)	I like being in school	À	Α —	Ă ——	A
b)	I feel safe when I am at school	Α	Α	Α	A
c)	I feel like I belong at this school	Α	Α	Α	A
d)	Teachers at this school care about me	Α	Α	Α	A
e)	I am proud to go to this school	Α	Α	Α	A
f)	I have friends at this school	Α	Α	Α	A
g)	Students in this school respect me	Α	Α	Α	A
h)	Students at this school like me the way I am	Α	Α	Α	A

During this school year, how often have other students from your school done any of the following things to you in person, through messaging, or through social media?

		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)	- A	A	A ———	• A
b)	Spread lies about me	Α	Α	Α	Α
c)	Shared my secrets with others	Α	Α	Α	Α
d)	Refused to talk to me	Α ——	Α	Α	Α
e)	Said hurtful things to or about me because of my cultural background (e.g., <race, ethnicity,="" religion="">)</race,>	Α	Α	Α	A
f)	Stole something from me	Α	Α	Α	Α
g)	Made me do things I didn't want to do	Α	Α	Α	A
h)	Sent me nasty or hurtful messages online	Α	Α	Α	Α
i)	Shared nasty or hurtful things about me online	Α	Α	Α	Α
j)	Shared embarrassing photos of me online	Α	Α	Α	Α
k)	Threatened me	- A	Α	Α	Α
1)	Physically hurt me	Α	Α	Α	Α
m)	Excluded me from their group (e.g., parties, messaging)	Α	Α	Α	Α

n)	Damaged something of				
	mine on purpose	Α	Α	——A ——	- A

### **Mathematics in School**

#### 16 \_\_\_\_

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

Fill **one** circle only.

Every or almost every lesson -- A

About half the lessons -- A

Some lessons -- A

Never -- A

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

		Agree a lot	Agree a little	Disagree a little	Disagree a lot
a)	I enjoy learning mathematics	Ă ——	Α	A	A
b)	I do not like doing mathematics	Α	Α	Α	Α
c)	Mathematics is boring	Α	Α	Α	Α
d)	I learn many interesting things in mathematics	Α	Α	Α	Α
e)	I like mathematics	Α	Α	Α	Α
f)	I like any schoolwork that involves numbers	Α	Α	Α	Α
g)	I like to solve mathematics problems	Α	Α	Α	Α
h)	I look forward to mathematics class	Α	Α	Α	Α
i)	Mathematics is one of my favorite subjects	Α	Α	Α	A

# How much do you agree with these statements about your <u>mathematics lessons</u>?

Fil	l <b>one</b> circle for each line.	Agree a lot	Agree a little		Disagree a lot
a)	My teacher makes it clear what we should learn in each lesson	- A	A	A	A
b)	My teacher is easy to understand -	- A ——	-A	-A	-A
c)	My teacher has clear answers to my questions	- A	-A	-A	A
d)	My teacher is good at explaining mathematics	- A ———	Α	-A	A
e)	My teacher does a variety of things to help us learn	- A ——	-A	-A	A
f)	My teacher explains a topic again when we don't understand	- A	-A	-A	A
g)	My teacher gives me helpful feedback on my work	- A ——	-A	-A	A
h)	My teacher asks me to show what I have learned	- A ——	-A	-A	- A
i)	My teacher asks me to explain my answers	- A ——	-A	-A	A
j)	My teacher asks us to apply what we have learned in new situations	- A ——	-A	-A	A

# How often do these things happen in your mathematics lessons?

		Every or almost every lesson	About half the lessons	Some lessons	Never
a)	Students don't listen to what the teacher says	- A			A
b)	There is too much noise for students to work well	- A	-A	_A	—A
c)	My teacher has to wait a long time for students to be quiet	- A	-A	_A	—А
d)	Students interrupt the teacher	- A	_A	_A	— A
e)	Students do not follow the classroom rules	- A	–А ——	—А ——	—А
f)	Other students' behavior makes it hard for me to concentrate	- A	– A –	_A	— A

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

	l <b>one</b> circle for ch line.	Agree a lot	Agree a little	Disagree a little	Disagree a lot
a)	I usually do well in mathematics	A	A	- A	A
b)	Mathematics is harder for me than for many of my classmates	А	Α	Α	A
c)	Mathematics is not one of my strengths	- A	Α	- A	- A
d)	Mathematics is easy for me	- A	Α	Α	A
e)	I am good at working out difficult mathematics problems	- A	Α	Α	A
f)	I am good at explaining mathematics to others	- А	Α	Α	A
g)	Mathematics is harder for me than any other subject	- А	Α	Α	A
h)	Mathematics makes me confused	Α	Α	Α	A

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

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

### Science in School

#### 22 \_\_

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

Fill **one** circle only.

At least once a week -- A

Once or twice a month -- A

A few times a year -- A

Never -- A

# How much do you agree with these statements about learning science?

a)	I enjoy learning science	Agree a lot	a little	a little	<b>\</b>
b)	I do not like doing science	- A	Α	Α	A
c)	Science is boring	- A	Α	Α	A
d)	I learn many interesting things in science	- A	Α	Α	A
e)	I like science	- A	Α	Α	A
f)	I look forward to learning science in school	- A	Α	A	- A
g)	Science teaches me how things in the world work	- A	Α	Α	A
h)	I like to conduct science experiments	- A	Α	Α	A
i)	Science is one of my favorite subjects	- A	- A	- A	- A

# How much do you agree with these statements about your <u>science lessons</u>?

		Agree a lot	Agree a little	Disagree a little	Disagree a lot
a)	My teacher makes it clear what we should learn in each lesson	A	-A	- A	A
b)	My teacher is easy to understand	Α	Α	Α	A
c)	My teacher has clear answers to my questions	A	Α	- A	A
d)	My teacher is good at explaining science	- A	-A	Α	A
e)	My teacher does a variety of things to help us learn	Α	Α	Α	A
f)	My teacher explains a topic again when we don't understand	Α	Α	Α	A
g)	My teacher gives me helpful feedback on my work	А ——	Α	Α	A
h)	My teacher asks me to show what I have learned	- A	Α	Α	A
i)	My teacher asks me to explain my answers	- A	Α	-A	A
j)	My teacher asks us to apply what we have learned in new situations	A	-A	- A	- A

# How often do these things happen in your science lessons?

		Every or almost every lesson	About half the lessons	Some lessons	Never
a)	Students don't listen to what the teacher says	A —	- A	Ā	A
b)	There is too much noise for students to work well	- A	Α	Α	A
c)	My teacher has to wait a long time for students to be quiet	Α	Α	Α	A
d)	Students interrupt the teacher	Α	Α	Α	A
e)	Students do not follow the classroom rules	A	Α	- A	A
f)	Other students' behavior makes it hard for me to concentrate	- A	Α	Α	A

# How much do you agree with these statements about science?

		Agree a lot	<b>\</b>	a little	<b>\</b>
a)	I usually do well in science	Α	Α	Α	Α
b)	Science is more difficult for me than for many of my classmates	Α ——	Α	Α	Α
c)	Science is not one of my strengths	Α	Α	Α	Α
d)	Science is easy for me	Α	Α	Α	Α
e)	I am good at working out difficult science problems	Α	Α	Α	Α
f)	I am good at explaining science to others	Α	Α	Α	Α
g)	Science is harder for me than any other subject	Α ——	Α	Α	Α
h)	Science makes me confused	Α	Α	Α	Α

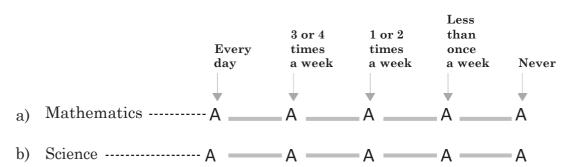
# How much do you agree with these statements about science?

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

### Homework

28

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



# Thank You!

Thank you for filling out the questionnaire!



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## <Grade 8>





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Identification Label

TRENDS IN INTERNATIONAL MATHEMATICS AND SCIENCE STUDY

# **Teacher Questionnaire**

## <Grade 4>

<TIMSS National Research Center Name>
<Address>



## Field Test Version

**Online Administration** 



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

#### **Teacher** Questionnaire

Your school has agreed to participate in TIMSS 2023 (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.



To access this questionnaire online, please copy the following link into the address bar of your Web browser:

#### <Insert LINK>

All necessary teacher login information (Subject Code, ID, and Password) is provided on the identification label located on the cover. "Teacher ID" is your ID and "Checksum" is your password.

You may exit the questionnaire at any time and log in again later—all of your responses will be saved automatically.

If you have problems accessing this online questionnaire or are in need of assistance (e.g., you would prefer to complete a paper copy of the questionnaire, questions related to a subject that you do not teach to the <TIMSS> class are displayed), please contact:

<Insert country-specific information here>.

# Thank You

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



timss.bc.edu

## <Grade 4>





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Identification Label

TRENDS IN INTERNATIONAL MATHEMATICS AND SCIENCE STUDY

# **Teacher Questionnaire**

## <Grade 4>

<TIMSS National Research Center Name>
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<Insert country-specific information here>.

Thank you.

**TIMSS 2023** 

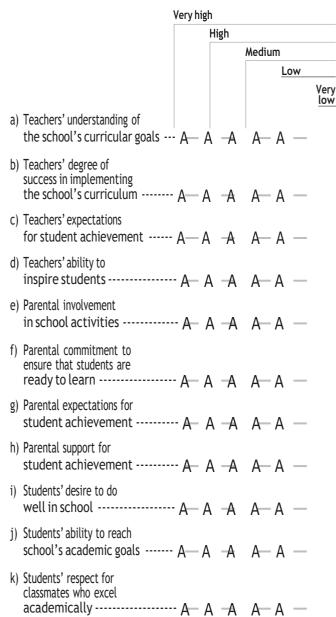
G5 A. During your <post-secondary> education, what By the end of this school year, how many years will you have been teaching altogether? was your major or main area(s) of study? Check one circle for each line. years Yes Please round to the nearest whole number. No G2 a) Education—Primary/Elementary ------ A —A Which of these describes you? b) Education—Secondary ----- A —A Check one circle only. c) Mathematics----- A A Female --- A d) Science ----- A -A Male --- A <0ther > ----- A e) <language of test> ----- A —A G3 f) Other ----- A —A How old are you? Check one circle only. B. If your major or main area of study was Under 25----- **△** education, did you have a <specialization> in any of the following? 25-29 -- A Check one circle for each line. 30-39 -- A Yes 40-49 -- A No a) Mathematics----- A A 50-59 -- A b) Science ----- A— A 60 or more ----- A c) Language/reading ----- A— A G4 What is the highest level of formal education you d) Other subject ------ A— A have completed? Check one circle only. Did not complete < Upper secondary education— ISCED Level 3> --- A <Upper secondary education—</pre> ISCED Level 3> --- A (If you have not completed <post-secondary or tertiary</pre> education>, go to #G6) <Post-secondary, non-tertiary education— ISCED Level 4> --- A <Short-cycle tertiary education— ISCED Level 5> --- A <Bachelor's or equivalent level— ISCED Level 6> --- A <Master's or equivalent level— ISCED Level 7'> --- A <Doctor or equivalent level—

ISCED Level 8> --- A

G6

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

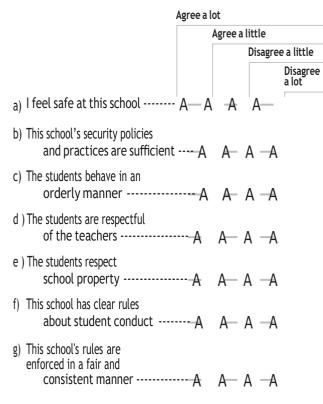
Check one circle for each line.



G7 \_\_\_\_\_

## How much do you agree or disagree with the following statements about your current school?

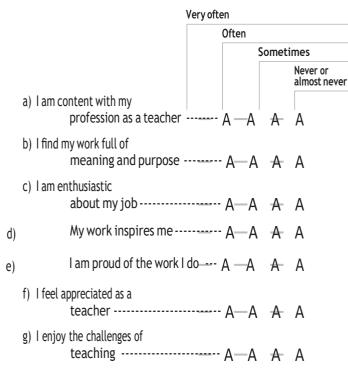
Check one circle for each line.



G8

## How often do you have these feelings about being a teacher?

Check one circle for each line.



G9

## How much do you agree or disagree with the statements below?

Check one circle for each line.

	Agree a lot			
		Agree a l	ittle	
			Disagre	e a little
				Disagree a lot
a) There are too many students in the classes	A	 A— A	 	
b) I have too much material to cover in class	A	A— A	A —A	
c) I have too many teaching hours	А	A- A	A –A	
d) I need more time to prepare for class	А	A- A	A -A	
e) I need more time to assist individual students	А	A— A	<b>A</b> —A	
f) I feel too much pressure from parents	А	A- A	A –A	
g) I have difficulty keeping up with all of the changes to the curriculum	А	A- <i>A</i>	A –A	
h) I have too many administrative tasks	А	A- A	<b>A</b> − <b>A</b>	

#### **About Teaching the TIMSS Class**

G10	G12
A. How many students are in this class?	How often do you do the following in teaching this class?
students	Check one circle for each line.
Write in the number.	Every or almost every lesson
	About half the lessons
B. How many of the students in #G10A are in	Some lessons
<fourth grade="">?</fourth>	Never
<fourth grade=""> students</fourth>	a) Relate the lesson to students' daily lives A—A—A——A———————————————————————
Write in the number.	b) Ask students to explain their answers A— A — A — A—
How many <fourth grade=""> students experience difficulties understanding spoken <language of="" test="">?  students in this class</language></fourth>	c) Communicate goals or objectives for the lesson to the students
Write in the number.	e) Encourage classroom discussions among students
	f) Link new content to students' prior knowledge A —A —A —
	g) Ask students to decide their own problem solving procedures A — A — A —

h) Encourage students to

express their ideas in class  $\,\,\cdots\,\,$  A  $\,\,\,\,\,$  A  $\,\,\,\,\,\,\,$ 

### 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			
	<u>S</u>	ome		
			A lot	
	a) Students lacking prerequisite knowledge or skillsA	A	A	
	b) Students suffering from lack of basic nutritionA	A	A	
	c) Students suffering from not enough sleepA	<b>A</b> -	А	
d)	Students absent from class A	$\forall$	Α	
	e) Disruptive studentsA	<b>A</b> -	Α	
	f) Uninterested studentsA	A	Α	
	g) Distracted studentsA	A	Α	
	h) Students with mental, emotional, or psychological impairment A	A	A	
	i) Students with difficulties understanding the language of instructionA	<b>A</b> -	A	

M	1

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.

g)

h)

### 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

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

Work in same ability groups—- A - A - A

## Using Calculators and Digital Devices for Teaching Mathematics to the TIMSS Class

M3 I

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

Check one circle only.

Yes, with unrestricted use --- A

Yes, with restricted use --- A

No --- A

M4 ■

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 --- A

No --- A

(If No, go to #M5)

If Yes,

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

Check one circle for each line.

Yes

- b) The class has digital devices that students can share ------ A— A
- c) The school has digital devices that the class can use sometimes ------ A- A
- d) Students bring their own digital devices ----- A-A
- C. How often do you have students use digital devices during mathematics instruction?

Check one circle only.

At least once a week --- A

Once or twice a month --- A

A few times a year --- A

Never or almost never ---  $\Delta$ 

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------ A — A — A b) Solve extended or contextualized problems ------A — A — A c) Create graphs, tables, or other data displays------A — A — A d) Play games involving mathematics calculations or concepts ------A — A — A

M5 **=** 

How much do each of these keep you from incorporating digital devices into mathematics instruction?

instructional videos ------A — A — A

Check one circle for each line.

Not at all

Somewhat

A lot

a) Not knowing how to use digital devices to improve student learning ------ A —A —A

e) Read the textbook or watch

ent learning ----- A —A

b) Not enough access to digital devices ------ A — A

c) Keeping students on task
when the class is using
digital devices ------ A —A —A

d) Lack of technical support from the school ------ A -A A-

### Mathematics Topics Taught to the TIMSS Class

#### M6 I

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 <fourth 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 <fourth 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) Recognize place value and order whole numbers ------A—A A b) Add and subtract up to 4-digit numbers \_\_\_\_\_\_A \_A A\_\_ c) Multiply up to 3-digit by 1-digit and 2-digit by 2-digit numbers ------ A—A A— e) Solve problems with odd/even numbers, multiples, or factors------ A A A f) Round or make estimations with whole numbers ------ A—A A— h) Extend a number pattern or find the missing number in a pattern ------ A A i) Represent, compare, and order fractions \_\_\_\_\_\_\_ A \_A \_A j) Add and subtract simple fractions \_\_\_\_\_ A \_A \_A k) Represent, compare, and order decimals up to two decimal places ------ A —A —A l) Add and subtract with decimals up to two decimal places ------ A A A— **B.** Measurement and Geometry a) Measure, estimate, add, and subtract lengths \_\_\_\_\_\_\_ A A b) Add and subtract mass, volume, or time in appropriate units ------ A —A c) Find perimeters of polygons \_\_\_\_\_\_\_ A \_A \_A\_ d) Find areas of shapes covered with squares or volumes of shapes filled with cubes------ A —A —A e) Recognize and draw parallel and perpendicular lines ------- A A A A f) Compare and draw angles ----- A A A g) Describe and draw common two-dimensional shapes (e.g., circles, triangles, quadrilaterals)------- A —A h) Describe and draw common three-dimensional shapes (e.g., cubes, rectangular solids, cones, cylinders, spheres) ----- A—A—A—A— C. Data a) Read and interpret data displays \_\_\_\_\_\_ A \_A \_A\_ b) Create or complete data displays \_\_\_\_\_\_ A \_A

c.	r) Draw conclusions from two or more data sources	Δ	Δ	Δ	
٠,	j blan conclusions nom tho or more data sources	<b>~</b> /	$\overline{}$	$\overline{}$	

### **Mathematics Homework for** the TIMSS Class

### **Mathematics Assessment of** the TIMSS Class

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 --- A ——— (Go to #M8)

Less than once a week --- A

1 or 2 times a week --- A

3 or 4 times a week --- A

Every day --- A

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

	S	omet	imes
			Never or almost never
_	-	_	
 Α	Α	Α	I

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

a) Correct assignments and give feedback to students

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

M8

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 workA A	A
	b) Asking students to answer questions during classA —A-	A
	c) Short, regular written assessments	Α
	d) Longer tests (e.g., unit tests or exams)A A-	Α
e)	Long-term projectsA A	Α

М9

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 --- A

Once a month --- A

Twice a year -- A

Once a year --- A

Never -- A

### **Professional Development to Teach Mathematics**

M10				
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 <b>one</b> circle for each line.	Check <b>one</b> circle for each line.			
Yes	Yes			
	No No			
a) Mathematics content A	A A A			
b) Mathematics pedagogy/ instruction A	AA A			
c) Mathematics curriculum A	A A A			
<ul> <li>d) Integrating technology into mathematics instruction A</li> <li>e) Improving students'</li> </ul>	AA A			
critical thinking or problem solving skills A	A A A			
f) Mathematics assessment – A	A A A			
g) Addressing individual students' needs A	A A A			

## **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.

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 I

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 h	alf the lessons
		Some lessons
		Never
a) Listen to me explain new science content	A—A —	 A—
b) Observe natural phenomena such as the weather or a plant growing and describe what they see	- A A	A—
c) Watch me demonstrate an experiment or investigation	A—A —	A—
d) Read their textbooks or other resource materials	A—A —A	A—
e) Memorize facts and principles	- A - A	A—
f) Do field work outside the class	- A-A	A—
g) Work in mixed ability groups	A—A A	A—
h) Work in same ability		

groups ----- A-A A A-

S3

How much emphasis do you place on the following when teaching science to students in this class?

Check **one** circle for each line.

A lot	
	Some
	None
a) Encouraging students to ask questions about scientific phenomena A —	-A A-
b) Having students predict the outcomes of experiments or investigations A —	A A-
c) Having students create representations (e.g., models, graphs) to explain scientific phenomena A —	-A A-
d) Having students use scientific concepts to explain phenomena A —	A A

## A. How often do you provide opportunities for students to do the following when teaching this class?

Check one circle for each line.

Once a week or more

Once or twice a month

Once or twice every few months

Never or almost never

a given question ------ A— A — A — A—

own procedures to answer

B. How often do you go to a separate science laboratory when conducting experiments or investigations with students in this class?

Check one circle only.

Always or almost always --- A

Sometimes --- A

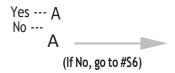
Never or almost never----- A

## Using Digital Devices for Teaching Science to the TIMSS Class

**S5** 

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

Check one circle only.



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

Check one circle only.

At least once a week --- A

Once or twice a month --- A

A few times a year --- A

D. How often do you ask the students in your class to use digital devices to do these science activities?
Check <b>one</b> circle for each line.
At least once a week
Once or twice a month
A few times a year
Never or almost never
a) Solve extended or contextualized problemsA — A — A
b) Create graphs, tables, or other data displaysA — A — A
c) Play games involving science concepts
d) Conduct virtual experiments or other simulations

S6

How much do each of these keep you from incorporating digital devices into science instruction?

instructional videos------A — A — A

e) Read the textbook or watch

Check **one** circle for each line.

Not at all

Somewhat

A lot

a) Not knowing how to

	use digital devices to improve student learning	Α-	-A	A
b)	Not enough access to digital devices	Α —	A	A
c)	Keeping students on task when the class is using digital devices	A –	-A	A
d)	Lack of technical support from the school	A —	A	A

**S7** 

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

If a topic or concept was in the curriculum before <fourth 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 <fourth 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 vet taught A. Life Science a) Basic differences between living and nonliving things ------ A—A A— c) Functions of major structures in living things (e.g., roots in plants)------- A A d) Life cycle stages of common plants and animals (e.g., flowering plants, frogs) ------ A —A e) Inherited characteristics of living things ------A A A f) How living things survive in their environments (e.g., physical characteristics, behaviors) ------ A —A —A g) How human actions impact the environment ------A A A h) Common ecosystems and their organisms (e.g., forest, desert) ------ A -A i) Interpreting simple food chains \_\_\_\_\_\_A A A j) Competition within ecosystems \_\_\_\_\_\_ A \_A **B. Physical Science** b) Grouping objects based on their physical properties ------- A A A A d) Magnetic attraction and repulsion ------A A A A e) Examples of physical and chemical changes in everyday life ------ A A A f) How to make solids dissolve faster in liquids (e.g., stirring, heating) ------ A A g) Concentration of solutions \_\_\_\_\_\_ A \_A \_A\_ How light is related to shadows, reflections, and rainbows ------ A A A-How vibrations are related to sound \_\_\_\_\_\_ A \_A \_A k) Movement of heat from hotter to cooler objects------ A A A A

l)	Simple electrical circuits	A	_A	$A_{-}$
m)	How motion is affected by forces (e.g., gravity, pushing, pulling, friction)	Α	<b>—</b> A	A
n)	Examples of simple machines (e.g., levers, ramps) A		<b>A</b> -	А —

**S7** 

Choose the response that best describes when each topic or concept is taught for students in this class.

If a topic or concept was in the curriculum before <fourth 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 <fourth 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

Not y

## 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 --- A (Go to #\$9)

Less than once a week --- A

1 or 2 times a week --- A

3 or 4 times a week --- A

Every day --- A

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

Check **one** circle for each line.

Sometimes

Never or almost never

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

S9

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

Check one circle for each line.

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

**S10** 

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 --- A

Once a month --- A

Twice a year -- A

Once a year --- A

Never -- A

### **Professional Development to Teach Science**

### S11 **==** A. In the past two years, have B. Do you need you participated in future professional professional development development in any in any of the following? of the following? Check one circle Check one circle for each line. for each line. Yes No No a) Science content ------ A A----- A A b) Science pedagogy/ instruction------ A A------ A A Science curriculum ------ A A------ A A c) d) Integrating technology into science instruction --- A A----- A A e) Improving students' critical thinking or inquiry skills------ A A------ A A Science assessment ----- A A----- A A f) g) Addressing individual students' needs------ A A------ A A h) Integrating science with other subjects (e.g., mathematics,

technology) ------ A A----- A A

## Thank You

Thank you for the thought time and affort you have

put into completing this questionnaire.



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## <Grade 4>





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## <Grade 4>





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Identification Label

TRENDS IN INTERNATIONAL MATHEMATICS AND SCIENCE STUDY

# Teacher Questionnaire Mathematics

<Grade 8>

<TIMSS National Research Center Name>
<Address>



## Field Test Version

**Online Administration** 



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

## **Teacher** Questionnaire

Your school has agreed to participate in TIMSS 2023 (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.

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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.



To access this questionnaire online, please copy the following link into the address bar of your Web browser:

#### <Insert LINK>

All necessary teacher login information (Subject Code, ID, and Password) is provided on the identification label located on the cover. "Teacher ID" is your ID and "Checksum" is your password.

You may exit the questionnaire at any time and log in again later—all of your responses will be saved automatically.

If you have problems accessing this online questionnaire or are in need of assistance (e.g., you would prefer to complete a paper copy of the questionnaire, questions related to a subject that you do not teach to the <TIMSS> class are displayed), please contact:

<Insert country-specific information here>.

## Thank You

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



timss.bc.edu

## <Grade 8>





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Identification Label

TRENDS IN INTERNATIONAL MATHEMATICS AND SCIENCE STUDY

# Teacher Questionnaire Mathematics

## <Grade 8>

<TIMSS National Research Center Name>
<Address>



## Field Test Version



## **Teacher** Questionnaire

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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** 

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 --- A

Male --- A

<Other> --- A

3

How old are you?

Check one circle only.

Under 25 --- A

25-29 --- A

30-39 --- A

40-49 --- A

50-59 --- A

60 or more --- A

4

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

Check one circle only.

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

<Upper secondary education—

ISCED Level 3> --- A

(If you have not completed <post-secondary or tertiary education>, go to #6)

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

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

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

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

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

5

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

Check one circle for each line.

Yes

	No
$_{ m a)}$ Mathematics $ m A$	A
b) Biology A	-A
Physics A	–A
d) Chemistry A	–A
e) <earth science=""> A</earth>	—A
f) Education-Mathematics A	—A
g) Education-Science A	—A
h) Education-General A	—A

i) Other----- A -A

6

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

Check one circle for each line.

	y	Very high				
		Ē	ligh			
				Medium		
				L	ow	
						Very low
a)	Teachers' understanding of the school's curricular goals	- A— A	-A	A— A	_	
b)	Teachers' degree of success in implementing the school's curriculum	A— A	-A	A— A	_	
c)	Teachers' expectations for student achievement	A— A	-A	A— A	_	
d)	Teachers' ability to inspire students	- A A	<b>-</b> A	A— A	_	
e)	Parental involvement in school activities	- A- A	. –A	A— A	_	
f)	Parental commitment to ensure that students are ready to learn	- A— A	-A	A— A	_	
g)	Parental expectations for student achievement	- A- A	. –A	A— A	_	
h)	Parental support for student achievement	- A- A	. –A	A— A	_	
i)	Students' desire to do well in school	A— A	<b>-</b> A	A— A	_	
j)	Students' ability to reach school's academic goals	A— A	-A	A— A	_	
k)	Students' respect for classmates who excel academically	- A— A	-A	A— A	_	

How much do you agree or disagree with the

following statements about your current school?

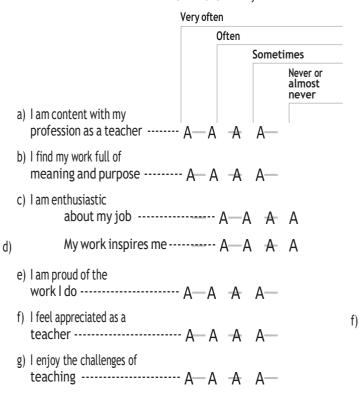
Check **one** circle for each line.



## How often do you have these feelings about being a teacher?

Check one circle for each line.

9



How much do you agree or disagree with the statements below?

Check one circle for each line.

	Agree a lot				
	-	\gree a	little		
			Disagre	e a little	
				Disagree a lot	
a) There are too many students in the classes	- A-A	A	A—		
b) I have too much material to cover in class	A —A	A	A—		
c) I have too many teaching hours	- A—A	A	A—		
d) I need more time to prepare for class	A A	A	A—		
e) I need more time to assist individual students	A —A	A	A—		
I feel too much pressure from parents	A A	A	A—		
g) I have difficulty keeping up with all of the changes to the curriculum	A A	A	A—		
h) I have too many administrative tasks	- A—A	A	A—		

### **About Teaching the TIMSS Class**

13 10 ı How many students are in this class? In your view, to what extent do the following limit how you teach this class? students Check one circle for each line. Write in the number. Not at all 11 Some A lot How many <eighth grade> students experience a) Students lacking prerequisite difficulties understanding spoken < language of knowledge or skills ----- A A A test>? b) Students suffering from lack of basic nutrition ------ A—A A students in this class Write in the number. c) Students suffering from not enough sleep ----- A A A Students absent from class ---- A A A How often do you do the following in teaching this class? Disruptive students ----- A A A Check one circle for each line. f) Uninterested students ------A A A Every or almost every lesson About half the lessons g) Distracted students ------ A A A Some lessons h) Students with mental, Never emotional, or psychological a) Relate the lesson to students' impairment ------ A—A A daily lives ----- A A A i) Students with difficulties b) Ask students to explain understanding the their answers ----- A A A language of instruction ------ A —A c) Communicate goals or objectives for the lesson to the students ------ A A A d) Ask students to complete challenging exercises that require them to go beyond the instruction ----- A — A — A — A e) Encourage classroom discussions among students ----- A— A — A f) Link new content to students' prior knowledge ---- A —A —A —A g) Ask students to decide their own problem solving procedures ----- A A A A h) Encourage students to express their ideas in class ---- A A A

### **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.

g)

h)

15<sub>1</sub>

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	- A—A	A	A—		
b) Listen to me explain how to solve problems	A— A	A	A—		
c) Memorize rules, procedures,					

- and facts ------ A— A A A—
- d) Practice procedures on their own ------ A—A A—A—
- e) Apply what they have learned to new problem situations on their own ------ A A A A——
- f) Work problems together in the whole class with direct guidance from me ------ A A A

Work in mixed ability groups -- A — A — A

Work in same ability groups—- A - A - A

### Using Calculators and Digital Devices for Teaching Mathematics to the TIMSS Class

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

Check one circle only.

Yes, with unrestricted use --- A

Yes, with restricted use --- A

No --- A

17 \_\_\_\_

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 --- A

No --- A

(If No, go to #18)

If Yes,

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

Check one circle for each line.

Yes

- a) The class has digital devices for each student to use ----- A A
- b) The class has digital devices that students can share ----- A A
- c) The school has digital devices that the class can use sometimes ----- A A
- Students bring their own digital devices ----- A A d)
- C. How often do you have students use digital devices during mathematics instruction?

Check one circle only.

At least once a week --- A

Once or twice a month --- A

A few times a year --- A

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 ----- A — A — A
- b) Solve extended or contextualized problems ------ A — A — A
- c) Create graphs, tables, or other data displays ------ A — A — A
- d) Play games involving mathematics calculations or concepts ----- A — A — A
- e) Read the textbook or watch instructional videos ------ A — A — A

**18** 

How much do each of these keep you from incorporating digital devices into mathematics instruction?

Check **one** circle for each line.

Not at all

A lot

Somewhat

a) Not knowing how to use digital devices to improve student learning----- A — A

- b) Not enough access to digital devices ----- A —A
- c) Keeping students on task when the class is using digital devices ------ A — A
- d) Lack of technical support from the school ------ A —A —A

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 <eighth 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 <eighth 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 ------A—A—A—A—A b) Find and use factors, multiples, positive powers, or square roots of positive whole numbers------ A —A c) Compare fractions and decimals \_\_\_\_\_\_ A \_A \_A d) Add, subtract, and multiply with fractions and decimals ------ A A A— A— f) Determine proportions and ratios ------A A A B. Algebra a) Simplify and compare algebraic expressions \_\_\_\_\_\_\_ A \_A \_A b) Solve simple linear equations \_\_\_\_\_\_ A \_A \_A c) Solve simple linear inequalities \_\_\_\_\_\_A \_A \_A h) Generalize linear and non-linear pattern relationships or sequences ------ A A C. Geometry and Measurement a) Read and plot points in the Cartesian plane ------A A A b) Recognize and draw different types of angles and lines ------ A A A A c) Use geometric properties of polygons to calculate lengths, perimeter, and area (including the Pythagorean Theorem) ------ A A A d) Determine the results of geometric translation, reflection, and rotation ------ A A f) Calculate surface area and volume of common three-dimensional shapes ------ A A

#### D. Data and Probability

a) Interpret data from one or more data sources

b) Represent data in graphs, charts, or plots	. <b>A</b>	_A	$A_{-}$
	- A	A	A-
c) Calculate and interpret the mean or median of a data distribution	Α	<b>-</b> A	A
d) Calculate probabilities of simple and compound events	Δ	Δ—	Δ —

### **Mathematics Homework** for the TIMSS Class

### **Mathematics Assessment** of the TIMSS Class

20 **•** 

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 --- A (Go to #21)

Less than once a week --- A

1 or 2 times a week --- A

3 or 4 times a week --- A

Every day --- A

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
Correct assignments and	-	-	_	
give feedback to students	Α	Α	Α	

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

a) Correct assignments and

- c) Discuss the homework in class ----- A A A
- d) Monitor whether or not the homework was completed ---- A A A
- e) Use the homework to contribute towards students' grades or marks ----- A A A

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 $$ A $-$ A	$\forall$	
	b) Asking students to answer		
	questions during class A —A	$\forall$	
	c) Short, regular written		
	assessments A—A	A-	
	d) Longer tests (e.g., unit		
	tests or exams) A	A	Α
e)	Long-term projectsA	A	Α

**22** i

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 --- A

Once a month --- A

Twice a year -- A

Once a year --- A

Never -- A

A. In the past two years, have B. Do you need you participated in future professional professional development development in any in any of the following? of the following? Check one circle Check one circle for each line. for each line. Yes No a) Mathematics content ----- A A------ A A b) Mathematics pedagogy/ instruction------ A A------ A A c) Mathematics curriculum -- A A----- A- A d) Integrating technology into mathematics instruction----- A A----- A e) Improving students' critical thinking or problem solving skills ----- A A------ A A f) Mathematics assessment- A A------ A A g) Addressing individual

students' needs------ A — A----- A — A---

## Thank You

put into completing this questionnaire.



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## <Grade 8>





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Identification Label

TRENDS IN INTERNATIONAL MATHEMATICS AND SCIENCE STUDY

## Teacher Questionnaire Science

## <Grade 8>

<TIMSS National Research Center Name>
<Address>



## Field Test Version

**Online Administration** 



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

#### **Teacher** Questionnaire

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#### <Insert LINK>

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# Thank You

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



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## <Grade 8>





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Identification Label

TRENDS IN INTERNATIONAL MATHEMATICS AND SCIENCE STUDY

# Teacher Questionnaire Science

#### <Grade 8>

<TIMSS National Research Center Name>
<Address>



### Field Test Version



#### **Teacher** Questionnaire

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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

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 --- A

Male --- A

<0ther> --- A

3

How old are you?

Check one circle only.

Under 25 --- A

25-29 --- A

30-39 --- A

40-49 --- A

50-59 --- A

60 or more --- A

4

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

Check one circle only.

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

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> --- A

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

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

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

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

5

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

Check one circle for each line.

Yes No No A A

b) Biology----- A A

c) Physics ---- A -A

d) Chemistry-----A —A

e) <Earth Science> ----- A —A

f) Education-Mathematics ----- A —A

g) Education-Science ----- A —A

h) Education-General ----- A —A

i) Other----- A -A

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

Check one circle for each line.

	Variable	jor cuen aner	
	Very high		
	High	Madium	
		Medium	
		Low	Vers
			Very low
a) Teachers' understanding of the school's curricular goals -	A AA	A- A -	
b) Teachers' degree of success in implementing the school's curriculum	A AA	A— A —	
c) Teachers' expectations for student achievement	- A— A —	A— A —	
d) Teachers' ability to inspire students	A- A -A	A-A -	
e) Parental involvement in school activities	A- A-A	A-A -	
f) Parental commitment to ensure that students are ready to learn	A A <i>-</i> -A	A-A -	
g) Parental expectations for student achievement	A AA	A-A -	
h) Parental support for student achievement	A AA	A-A -	
i) Students' desire to do well in school	A AA	A-A -	
j) Students' ability to reach school's academic goals	A AA	A— A —	
k) Students' respect for			

academically ----- A A A A A —

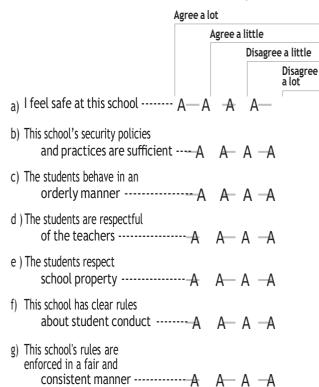
classmates who excel

Have moved alone or all

7

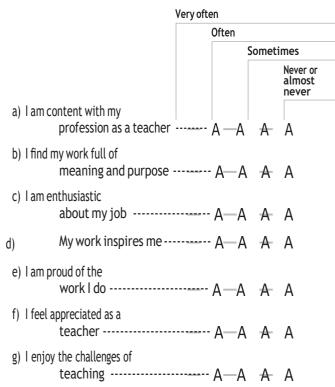
How much do you agree or disagree with the following statements about your current school?

Check **one** circle for each line.



### How often do you have these feelings about being a teacher?

Check one circle for each line.



9

## How much do you agree or disagree with the statements below?

Check **one** circle for each line.

		,			
Agr	ree a lo	t			
	A	gree a litt	:le		
		Di	sagree	a little	
				Disagree a lot	
a) There are too many students in the classes	-A	—	<b>—</b> A		
b) I have too much material to cover in class	A	A— A	<b>—</b> A		
c) I have too many teaching hours	-A	A– A	<b>—</b> A		
d) I need more time to prepare for class	A	A- A	<b>–</b> A		
e) I need more time to assist individual students	A	A— A	<b>—</b> A		
f) I feel too much pressure from parents	A	A- A	<b>—</b> A		
g) I have difficulty keeping up with all of the changes to the curriculum	A	A- A	<b>—</b> A		
h) I have too many administrative tasks	-A	A- A	<b>—</b> A		

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

How many students are in the	is class?	In your view, to what extent do the how you teach this class?	following lim
students Write in the number.		Check <b>one</b> ci	rcle for each line.
		Not at all	
		Son	ne
How many <eighth grade=""> s difficulties understanding <u>s</u> test&gt;?</eighth>		a) Students lacking prerequisite knowledge or skillsA	A lot A A
students in th	nis class	b) Students suffering from lack of basic nutritionA	<b>A</b> A
/rite in the number.		c) Students suffering from not enough sleep A	<b>\</b> − A
low often do you do the fo	llowing in teaching this	d) Students absent from class A	A- A
lass?		e) Disruptive studentsA	<b>4</b> A
	eck <b>one</b> circle for each line. very or almost every lesson	f) Uninterested studentsA	<b>4</b> - A
	About half the lessons Some lessons	g) Distracted studentsA	<b>4</b> A
Relate the lesson to students' daily lives	Never A A A A	h) Students with mental, emotional, or psychological impairment	A A
Ask students to explain their answers		<ul> <li>i) Students with difficulties understanding the language of instructionA</li> </ul>	4 A
) Communicate goals or objectives for the lesson to the students	A A A A		
Ask students to complete challenging exercises that require them to go beyond the instruction			
Encourage classroom discussions among students	A A AA		
Link new content to students' prior knowledge	A AA		
) Ask students to decide their own problem solving procedures			
express their ideas in class	A A A A		

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

14 i 16 i In a typical week, how much time do you spend How much emphasis do you place on the following teaching science to the students in this class? when teaching science to students in this class? Check one circle for each line. minutes per week A lot Write in the number of minutes per week. Please convert the number of hours into minutes. Some None a) Encouraging students to **15** i ask questions about scientific phenomena ------ A — A In teaching science to the students in this class, how often do you ask them to do the following? b) Having students predict the outcomes of experiments or Check one circle for each line. investigations ----- A A Every or almost every lesson c) Having students discuss About half the lessons variation in data from Some lessons experiments or Never investigations ----- A A a) Listen to me explain new d) Having students use science content ------ A — A — A — A multiple sources of evidence to explain b) Observe natural phenomena scientific phenomena ------ A — A and describe what they see --- A A A e) Having students create c) Watch me demonstrate representations (e.g., an experiment or models, graphs) to explain investigation ----- A A A scientific phenomena ------ A — A d) Read their textbooks or f) Having students use other resource materials ----- A A A A scientific concepts to e) Memorize facts and explain phenomena ······ A — A — A principles------AAAA g) Having students argue f) Use scientific formulas and about science questions ----- A—A laws to solve routine problems ----- A A A A g) Do field work outside of class-- A—A —A —A h) Work in mixed ability groups -- A—A —A ——A

i) Work in same ability groups --- A — A — A — A—

#### 17 -

## A. How often do you provide opportunities for students to do the following when teaching this class?

Check **one** circle for each line.

Once a week or more

		Once or twice a month			month
				Once or few mo	twice every nths
					Never or almost never
a)	Experiments or investigations that are carried out in a single lesson	A—A	A	A—	
b)	Experiments or investigations that are carried out over a series of lessons	A —A	<b>A</b> -	A —	
c)	Hands-on activities to explore science concepts	- A A	A	A—	
d)	Experiments with a prescribed set of steps to answer a given question	A—A	$\forall$	A	
e)	Experiments where students determine their own procedures to answer a given question	- A— A	<del>-</del> A	A—	

B. How often do you go to a separate science laboratory when conducting experiments or investigations with students in this class?

Check one circle only.

Always or almost always --- A

Sometimes --- A

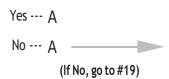
Never or almost never --- A

#### Using Digital Devices for Teaching Science to the TIMSS Class

**18** <sub>1</sub>

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

Check one circle only.



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

Check one circle only.

At least once a week --- A

Once or twice a month --- A

A few times a year --- A

	v often do you ask the digital devices to do tl		-		
		Check or	e circle	for eac	h line.
		At least	once a we	ek	
			Once or t	wice a n	nonth
				A few tiı a year	nes
					Never or almost never
	olve extended or ntextualized problems	 A — A	 A -A	<b>A</b> -	
b) Cr ot	eate graphs, tables, or her data displays	A — A	A -A	<b>A</b> -	
	ay games involving ience concepts	A — A	A -A	<b>A</b> -	
	onduct virtual experiments other simulations	A —	A -A	<b>A</b> -	
	ead the textbook or watch structional videos	A — A	A- A	<b>A</b> –	

19 -

How much do each of these keep you from incorporating digital devices into science instruction?

Check **one** circle for each line.

	1	Not at all				
		Somewhat				
				A lot		
a)	Not knowing how to use digital devices to improve student learning	A —A	A			
b)	Not enough access to digital devices	A —A	A			
c)	Keeping students on task when the class is using digital devices	А <i>—</i> А	A			
d)	Lack of technical support	Δ —Δ	-Δ-			

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

20

Choose the response that best describes when each topic or concept is taught for students in this class.

If a topic or concept was in the curriculum before <eighth 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 <eighth 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. Biology b) Structures and functions of major organs and organ systems ------ A A A—— A— c) How animals maintain stable body conditions ------A \_A \_A \_A d) Major structures and functions in plant and animal cells------ A A A A e) Basic processes of photosynthesis \_\_\_\_\_\_ A \_A \_A\_ f) Basic processes of cellular respiration \_\_\_\_\_\_A \_A \_A g) Life cycles of mammals, birds, amphibians, insects, and plants ------ A —A h) Processes for reproduction and inheritance in plants and animals ------ A A A m) How changes in an ecosystem affect the populations of organisms that live there------ A —A n) How human actions can positively or negatively impact the environment ------- A —A 0) How to prevent transmission of common diseases among humans ------ A—A A **B. Chemistry** a) Structure of atoms (i.e., protons, neutrons, electrons) and molecules ------- A —A c) How to interpret the periodic table of elements ------ A A A-d) Classifying matter according to physical and chemical properties ------ A —A e) Methods for separating mixtures \_\_\_\_\_ A \_A \_A\_ f) Solution concentration and rate of dissolving \_\_\_\_\_\_A \_A \_A g) Properties of acids and bases \_\_\_\_\_\_A \_A \_A

h)	Matter and energy in chemical reactions, including evidence of chemical change	A ·	-A	A
i)	How to change the rate of chemical reactions	Α.	_A	<b>A</b> _
j)	Chemical bonds (e.g., role of electrons)	Α	A	A-

#### (continued)

Choose the response that best describes when each topic or concept is taught for students in this class.

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Check **one** circle for each line. Mostly taught before this year Mostly taught this year Not yet taught C. Physics a) Separation and motion of atoms/molecules in solids, liquids, and gases ------ A —A b) Characteristics of matter and energy during state changes ------- A A A— Thermal conductivity and the transfer of thermal energy between objects of different temperatures ------- A — A e) Reflection, refraction, or absorption of light \_\_\_\_\_\_\_\_ A \_A\_ f) Characteristics of sound (i.e., amplitude, frequency) and its transmission, reflection, and absorption ------ A—A —A g) Electrical conductors and simple electrical circuits ------- A A A — A h) Polarity, strength, and uses of permanent magnets and electromagnets ------ A —A i) Speed as distance changing over time \_\_\_\_\_\_ A \_A \_A j) Acceleration as speed changing over time \_\_\_\_\_\_A A A k) Effects of common forces on speed and direction of motion ------ A -A A l) Density and buoyancy ------A A A m) Functioning of simple machines (e.g., levers, inclined planes, pulleys) ------ A —A D. Earth Science b) Gases present in Earth's atmosphere and their relative abundance ------ A —A c) Changes in temperature and pressure based on altitude ------ A A A d) How geological events impact Earth's surface ------A A A A f) How fossils form and what they show about Earth's history ------ A A A h) Differences between weather and climate and geographic factors affecting climate ------ A —A —A i) Evidence for climate change \_\_\_\_\_\_\_\_ A \_A \_A j) Use and conservation of Earth's resources, including land, water, and renewable and nonrenewable energy sources \_\_\_\_\_\_A A A

- k) Phenomena caused by the motion of Earth and the Moon (e.g., seasons, tides, Moon phases)------ A A
- l) The Sun as a star and physical features of the Earth, Moon, and other planets ------ A —A

## 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 --- A (Go to #22)

Less than once a week --- A

1 or 2 times a week --- A

3 or 4 times a week --- A

Every day --- A

## B. 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			
	S	ometi	mes	
			Never or almost never	
a) Correct assignments and give feedback to students	A A	Α		
b) Have students correct their own homework	- A A	$\overline{A}$		
c) Discuss the homework in class	A _A	<u>A</u>		
d) Monitor whether or not the homework was completed	А А	Α		
e) Use the homework to contribute towards	_	_		

students' grades or marks ----- A A A

22 \_\_\_

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

Check **one** circle for each line.

A lot		
S	ome	
		None
a) Observing students as they workA	A-	А
b) Asking students to answer questions during classA	A	Α
c) Short, regular written assessmentsA	A	А
d) Longer tests (e.g., unit tests or exams)A	<b>A</b> -	А
Long-term projectsA	A	Α

23

e)

## 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 --- A

Once a month --- A

Twice a year -- A

Once a year --- A

Never -- A

f)

g) Addressing individual

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 <b>one</b> circle for each line.	Check <b>one</b> circle for each line.
<u>Yes</u>	<u>Yes</u>
!	No No
a) Science content A	A A A
b) Science pedagogy/ instruction	A A A
c) Science curriculum A	A A- A
d) Integrating technology into science instruction Δ	A A A A
e) Improving students' critical thinking or inquiry skillsA	A A A

Science assessment ----- A A----- A A

students' needs------ A A----- A A

# Thank You

put into completing this questionnaire.



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## <Grade 8>





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Identification Label

TRENDS IN INTERNATIONAL MATHEMATICS AND SCIENCE STUDY

## School Questionnaire

## <Grade 4>

<TIMSS National Research Center Name>
<Address>



## Field Test Version

**Online Administration** 



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

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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.



To access this questionnaire online, please copy the following link into the address bar of your Web browser:

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Thank you.

**TIMSS** 2023

#### **School Enrollment and Characteristics**

students Write in the number.	
wheeling the hamber.	
What is the total enrollment students in your school as of FIMSS testing begins, 2022>?	f <first day="" month<="" of="" th=""></first>
students Write in the number.	
Approximately what percent school have the following bac	-
school have the following bac	-
school have the following bac	ckgrounds?  ck one circle for each line.  o 10%
school have the following bac	ckgrounds?
school have the following bac	ck grounds?  ck one circle for each line.  11 to 25%
school have the following bac	ckgrounds?  ck one circle for each line.  o 10%  11 to 25%  26 to 50%  More than
school have the following bac	ck grounds?  ck one circle for each line.  1000  11 to 25%  26 to 50%  More than 50%

Check one circle only.

More than 90% --- A

76 to 90% --- A

51 to 75% --- Д

26 to 50% --- A

## 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 --- A

100,001 to 500,000 people --- A

50,001 to 100,000 people --- A

30,001 to 50,000 people --- A

15,001 to 30,000 people --- A

3,001 to 15,000 people --- A

3,000 people or fewer --- A

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

Check one circle only.

Urban-Densely populated --- A

Suburban-On fringe or outskirts of urban area --- A

Medium size city or large town --- A

Small town or village --- A

Remote rural --- A

#### **Instructional Time**

#### 6

For the <fourth grade> students in your school:

A. How many <u>days per year</u> is your school open for instruction?

\_\_\_\_ days

B. What is the <u>total instructional time</u>, 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 <u>calendar week</u>, how many days is the school open for instruction?

Check one circle only.

5 1/2 days --- A

5 days --- Δ

41/2 days --- A

4 days --- A

Other --- A

#### 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 --- A

No --- Δ

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

Check one circle only.

Yes --- A

No --- A

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 --- A

No --- A

10

Do students in your school have access to these resources?

Check one circle for each line.

Yes

<u>No</u> Λ

a) A library or media center ------ A —A

c) High speed internet -----  $\underline{\underline{A}}$   $\ \ \, A$ 

## 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. Check one circle for each line. Not at all Not at all A little A little Some Some A lot A lot A. General School Resources B. Resources for Mathematics Instruction a) Instructional materials (e.g., textbooks) ------ A\_A\_A\_A\_A\_ a) Teachers with a specialization in mathematics -----A A A A b) Supplies (e.g., papers, pencils, materials) ------ A—A A b) Computer software/ applications for c) School buildings and mathematics instruction -----A A A A grounds ------ A—A A c) Library resources relevant d) Heating/cooling and lighting to mathematics instruction --- A A A A A systems ------ A—A A—A— d) Calculators for mathematics e) Instructional space (e.g., instruction -----A A A A classrooms) ----- A A A e) Concrete objects or materials f) Technologically competent to help students understand staff ----- A—A A quantities or procedures -----A A A A g) Audio-visual resources C. Resources for Science for delivery of instruction Instruction (e.g., interactive white boards, digital projectors) ----- A A A a) Teachers with a specialization in science ------A A A A h) Digital devices for student use ------ A— A — A b) Computer software/ applications for i) Resources for students with science instruction ------ A A A A disabilities------AAAA c) Library resources relevant to science instruction ------A A A A d) Science equipment and

materials for experiments ----- A A A A

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

Check one circle for each line.

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

13<sub>1</sub>

## 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 prob	Minor problem		
M	odera	te problem	
		Serious problem	
a) Arriving late at school AA	$A_{-}$	Α	
b) Absenteeism (i.e., unjustified absences) A —A	A	Α	
c) Classroom disturbance A —A	A	Α	
d) CheatingA A A A	$-\!A$		
e) ProfanityA A A	$-\!A$		
f) VandalismA A A A	<b>-</b> A		
g) TheftA A A A	<b>—</b> A		
h) Intimidation or verbal abuse among students (including			
texting, emailing, etc.) A—A	A	Α	
i) Physical fights among students A—A	A	Α	
j) Intimidation or verbal abuse of teachers or staff (including texting, emailing, etc.) A—A	A	А	

14

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

Check one circle for each line.

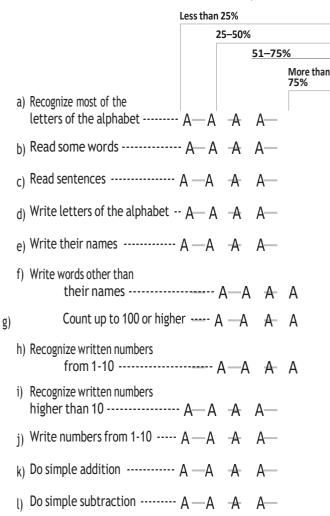
Not a problem		
Minor p	Minor problem	
	Moderate problem Serious problem	
a) Arriving late or leaving early $-A - A$	A—	
b) Absenteeism A— A —A	A	

#### **School Readiness**

15

## 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.



## Principal's Experience and Education

16

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.

17

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.

18 .

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> --- A

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

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

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

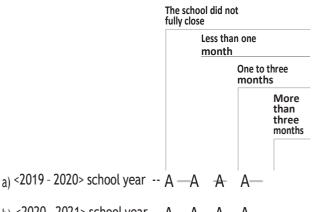
19

Do you hold the following qualifications or credentials in <u>educational leadership</u>?

Check **one** circle for each line.

For how long was your school fully closed for in-person instruction because of the COVID-19 pandemic?

Check one circle for each line.

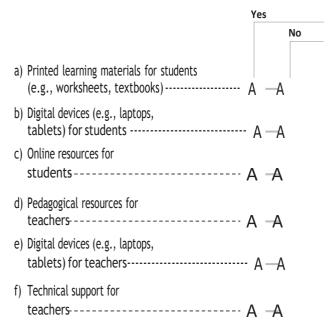


- b) <2020 2021> school year -- A A A—
- c) <2021 2022> school year -- A A A—

21

Did your school provide these additional remote learning resources during the COVID-19 pandemic?

Check one circle for each line.



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



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Your school has agreed to participate in TIMSS 2023 (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.

1

What is the total enrollment of students in your school as of <first day of month TIMSS testing begins, 2022>?

write in the number.

2

What is the total enrollment of <<u>eighth grade</u>> students in your school as of <first day of month TIMSS testing begins, 2022>?

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 ------ A — A — A — A—

A

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

Check one circle only.

More than 90% --- A

76 to 90% --- A

51 to 75% --- A

26 to 50% --- A

25% or less --- A

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 --- A

100,001 to 500,000 people --- A

50,001 to 100,000 people --- Д

30,001 to 50,000 people --- A

15,001 to 30,000 people --- A

3,001 to 15,000 people --- A

3,000 people or fewer --- A

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

Check one circle only.

Urban-Densely populated --- A

Suburban-On fringe or outskirts of urban area --- A

Medium size city or large town --- A

Small town or village --- A

Remote rural --- A

#### **Instructional Time**

## 6

For the <eighth grade> students in your school:

A. How many <u>days per year</u> is your school open for instruction?

\_\_\_\_ days

B. What is the <u>total instructional time</u>, excluding breaks, in a <u>typical day?</u>

minutes

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

C. In one <u>calendar week</u>, how many days is the school open for instruction?

Check one circle only.

5 1/2 days --- Δ

5 days --- A

41/2 days --- A

4 days --- A

Other --- A

#### 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 --- A

No --- Δ

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

Check one circle only.

Yes --- A

No --- A

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 --- A

No --- A

10

Do students in your school have access to these resources?

Check **one** circle for each line.

Yes

No

a) A library or media center ------ A —A

c) High speed internet ----- A A

#### 11

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

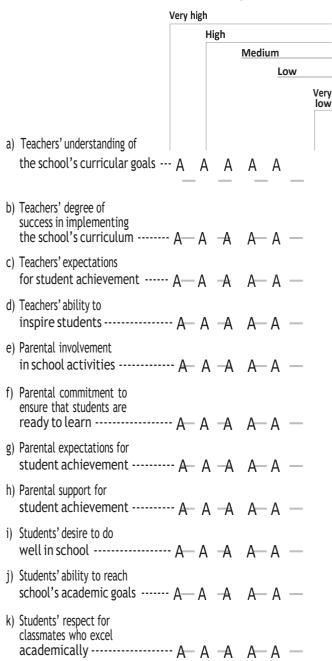
Check one circle for each line. Check one circle for each line. Not at all Not at all A little A little Some Some A lot A lot A. General School Resources **B.** Resources for Mathematics Instruction a) Instructional materials (e.g., textbooks) ------ A\_A\_A\_A\_A\_ a) Teachers with a specialization in mathematics -----A A A A b) Supplies (e.g., papers, pencils, materials) ------ A—A A b) Computer software/ applications for c) School buildings and mathematics instruction ----- A A A A grounds ------ A—A A c) Library resources relevant d) Heating/cooling and lighting to mathematics instruction --- A A A A A systems ------ A—A A—A— d) Calculators for mathematics e) Instructional space (e.g., instruction -----A A A A classrooms) ----- A A A e) Concrete objects or materials f) Technologically competent to help students understand staff ----- A—A A quantities or procedures -----A A A A g) Audio-visual resources C. Resources for Science for delivery of instruction Instruction (e.g., interactive white boards, digital projectors) ----- A A A a) Teachers with a specialization in science -----A A A A h) Digital devices for student use ------ A— A — A b) Computer software/ applications for i) Resources for students with science instruction ------ A A A A disabilities------AAAA c) Library resources relevant to science instruction ------A A A A d) Calculators for science instruction-----A A A A e) Science equipment and

materials for experiments ---- A A A A A

**12** i

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

Check one circle for each line.



13

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

Check one circle for each line.

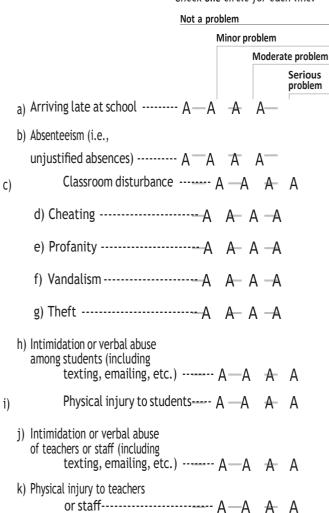
	Agree a lot
	Agree a little
	Disagree a little
	Disagree a lot
a) The school provides students with information about career options in mathematics and science	A A A A A
b) The school has initiatives to promote student interest in mathematics and science (e.g., student clubs, competitions)	A A-A-A
c) The school promotes professional development for teachers of mathematics and science	A A-A-A
d) The school provides extra lessons to help students excel in mathematics and scie	ence A A A A
e) The school provides special activities in mathematics and science for interested students	A A A A A
f) The school has a specific goal to improve mathematics and science education	A A A A
g) The school encourages students to continue studying mathematics and science in the futur	eA A A A —A
h) Mathematics and science teachers in this school spend extra time working with students interested in mathematics and science	ceA A A A —A

# School Discipline and Safety

#### 1 1

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

Check one circle for each line.



## 15

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

Check **one** circle for each line.

	CHECK one	circle	joi eud	in time.
	Not a pro	blem		
	N	1inor p	roblem	
			Mo	derate problem
				Serious problem
a) Arriving late or leaving early -	- A— A	$\overline{A}$	A—	
b) Absenteeism	A— A	A	Α—	

## Principal's Experience and Education

#### 16

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.

#### 17

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.

#### 18 .

## 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> --- A

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

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

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

#### 19

## Do you hold the following qualifications or credentials in <u>educational leadership</u>?

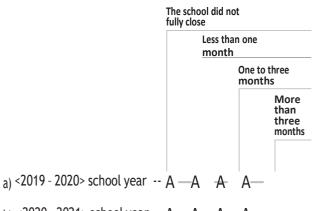
Check one circle for each line.

		No
a) <certificate license="" or=""></certificate>	A —A	
b) <master's 7="" equivalent="" level="" level—isced="" or=""></master's>	A —A	
c) < Doctor or equivalent level—ISCED Level 8>	A —A	

20

For how long was your school fully closed for in-person instruction because of the COVID-19 pandemic?

Check one circle for each line.



- b) <2020 2021> school year -- A —A —A —A—
- c) <2021 2022> school year -- A A A A—

21

Did your school provide these additional remote learning resources during the COVID-19 pandemic?

Check one circle for each line.

		Yes
		No
a)	Printed learning materials for students (e.g., worksheets, textbooks) A	—A
b)	Digital devices (e.g., laptops, tablets) for students	A —A
c)	Online resources for students A	. –A
d)	Pedagogical resources for teachers	<b>-</b> A
e)	Digital devices (e.g., laptops, tablets) for teachers	A —A
f)	Technical support for teachers A	-A

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



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<Grade 8>





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#### **U.S. National Items**

## National Items for TIMSS 2023

#### **Student Qx**

The next few questions ask for your opinion about different things, so there are no right or wrong answers. How much do you agree or disagree with the following statements?<sup>1</sup>

Select one answer for each row.	Agree a lot	Agree a little	Disagree a little	Disagree a lot
a. You have a certain amount of intelligence and you can't really do much to change it.	1 <b>Q</b>	2 <b>Q</b>	3 <b>Q</b>	4 <b>O</b>
b. Your intelligence is something about you that you can't change very much.	1 <b>O</b>	2 <b>Q</b>	3 <b>Q</b>	4 <b>O</b>
c. You can learn new things, but you can't really change your basic intelligence.	1 <b>Q</b>	2 <b>Q</b>	3 <b>Q</b>	4 <b>O</b>
d. No matter who you are, you can change your intelligence a lot.	1 <b>Q</b>	2 <b>Q</b>	3 <b>Q</b>	4 <b>O</b>
e. You can always greatly change how intelligent you are.	1 <b>Q</b>	2 <b>Q</b>	3 <b>Q</b>	4 <b>O</b>
f. No matter how much intelligence you have, you can always change it quite a bit.	1 <b>O</b>	2 <b>Q</b>	3 <b>Q</b>	4 <b>O</b>

#### How many of the following ICT devices are currently used in your home?<sup>2</sup>

(Please mark one choice in each row)

		None	One	Two	Three or more
a)	Desktop or laptop computers				
b)	Tablet devices (e.g., iPad, Surface Pro, Kindle)				

<sup>&</sup>lt;sup>1</sup> Source: Middle Grades Longitudinal Study of 2017-18 (MGLS:2017)

<sup>&</sup>lt;sup>2</sup> Source: International Computer and Information Literacy Study (ICILS) 2023 Proposed Field Test Student Questionnaire.

## Six national items for both grades<sup>3</sup>

E	3. Are you Hispanic or Latino?
	Fill in one oval only.
	Yes, I am Hispanic or Latino ⊕
	No, I am not Hispanic or Latino ②
(	C. Which of the following best describes you?
	Fill in ovals for <b>all</b> that apply.
	White ①
	Black or African American ①
	Asian ①
	American Indian or Alaska Native ①
	Native Hawaiian or other
	Pacific Islander
В.	What language do you speak at home (other than English)?
	Fill in <b>one</b> oval only.
	Spanish ⊕
	Other   Please specify
	ne following questions ask about activities you do tside of school.
	Fill in only one oval for each row.
	Yes No
a)	Do you play on a sports team outside of school? — — — — — — — —
b)	Do you often play a musical instrument outside of school?
c)	Are you studying something in a class outside of school?
d)	Do you belong to a club outside of school (like Boy/Girl Scouts, 4-H, or Boys and Girls Club)?
	4-11, or boys and Giris Club):

<sup>&</sup>lt;sup>3</sup> Source: 2019 TIMSS Student Questionnaire

- 2. How much effort did you apply to succeed on this test?
  - No effort at all
  - ® Very little effort
  - Some effort
  - O Quite a bit of effort
  - A lot of effort

**Adaptation for country-specific indicator of wealth:** A gaming system (e.g., PlayStation, Nintendo Switch, Xbox)

## Two (2) items that are similar for grade 4 and grade 83

Grade 4	Grade 8
Grade 4  9  Are you preparing for or have you participated in a science club, a science fair, or a science competition?  Fill in one oval only.  Yes ①  No ②	In this school year, are you preparing for or have you participated in any of the following activities?  Fill in only one oval for each row.  Yes No  a) Science fair —   Science fair —   The school year, are you preparing for or have you participated in any of the following activities?  Fill in only one oval for each row.
	b) Science club

Grade 4	Grade 8
10	13
Have you ever repeated a grade in elementary school?	Have you ever repeated a grade?
Fill in one oval only.	Fill in only one oval for each row.
Yes ①	Yes No
No ⊅	a) In elementary school    b) In middle or junior high school

## <u>Teacher</u>

#### One item that is the same for all teachers<sup>4</sup>

What	year	did	you	start	teachir	ıg:

Please write in a year.

#### One item that is similar for math and science teachers for grade 84

Grade 8 – Math	Grade 8 – Science		
Which best describes the mathematics course you are teaching to the class with the TIMSS students?	Which best describes the science course you are teaching to the class with the TIMSS students?		
Fill in <b>one</b> circle only.	• · · · · · · · · · · · · · · · · · · ·		
a) Basic or general eighth-grade math (not algebra or pre-algebra) ①	Fill in <b>one</b> circle only.		
b) Pre-algebra or introduction to algebra ②			
c) Two-year pre-algebra 3	a) General science (several content areas of science taught separately)		
d) Algebra I (one-year course) 4	h) Integrated science (several content areas of		
e) Algebra I (first year of a two-year Algebra I course) (5)	b) Integrated science (several content areas of science combined and taught together throughout the year)		
f) Algebra I (second year of two-year Algebra I course) 6	c) Life science (e.g., biology, ecosystems, human health)		
g) Geometry 7			
h) Algebra II	d) Physical science (e.g., physics or chemistry) 4		
i) Integrated or sequential math 9	e) Earth science (e.g., geology, Earth and the solar system, fossils)		
j) Other math class ®	the 30th 3/3tem, 103313/		

<sup>&</sup>lt;sup>4</sup> TIMSS 2019 Teacher Questionnaire

#### **School**

#### Two items that are the same for all grades<sup>5</sup>

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



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?

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

<sup>&</sup>lt;sup>5</sup> TIMSS 2019 School Questionnaire