



IEA

**TIMSS**  
LONGITUDINAL

2023–2024

Identification Label

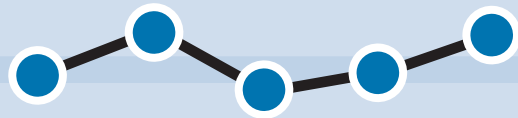
TRENDS IN INTERNATIONAL MATHEMATICS AND SCIENCE STUDY

# Teacher Questionnaire

<Grade 5>

<TIMSS National Research Center Name>

<Address>



IEA

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

# Teacher Questionnaire

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

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

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

Some of the questions in the questionnaire refer to the <"**TIMSS class** that" or the "**TIMSS students** who"> will be tested as part of TIMSS 2023 Longitudinal. This is the class that is identified on the front of this booklet. Please keep this group in mind when responding to class-specific questions. It is important that you answer each question carefully so that the information that you provide reflects your situation as accurately as possible.

Since TIMSS is an international study and all countries are using the same questionnaire, you may find that some of the questions seem unusual or are not entirely relevant to you or schools in <country>. Nevertheless, it is important that you do your best to answer all of the questions so comparisons can be made across countries in the studies.

It is estimated that you will need approximately 35 minutes to complete this questionnaire. We appreciate the time and effort that this takes and thank you for your cooperation and contribution.

When you have completed the questionnaire, please place it in the accompanying envelope and return it to:

<Insert country-specific information here>.

Thank you.

# TIMSS 2023 LONGITUDINAL

## About You

**G1**

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

ATBLG01

\_\_\_\_\_ years  
Please **round** to the nearest whole number.

**G2**

Which of these describes you?

ATBLG02

Check **one** circle only.

Female --- ☐

Male --- ☐

<Other> --- ☐

**G3**

How old are you?

ATBLG03

Check **one** circle only.

Under 25 --- ☐

25–29 --- ☐

30–39 --- ☐

40–49 --- ☐

50–59 --- ☐

60 or more --- ☐

**G4**

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

ATBLG04

Check **one** circle only.

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

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

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

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

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

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

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

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

**G5**

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

Check **one** circle for each line.

|                                                    | Yes                   | No                    |
|----------------------------------------------------|-----------------------|-----------------------|
| a) Education—Primary/Elementary -----<br>ATBLG05AA | <input type="radio"/> | <input type="radio"/> |
| b) Education—Secondary -----<br>ATBLG05AB          | <input type="radio"/> | <input type="radio"/> |
| c) Mathematics -----<br>ATBLG05AC                  | <input type="radio"/> | <input type="radio"/> |
| d) Science -----<br>ATBLG05AD                      | <input type="radio"/> | <input type="radio"/> |
| e) <language of test> -----<br>ATBLG05AE           | <input type="radio"/> | <input type="radio"/> |
| f) Other -----<br>ATBLG05AF                        | <input type="radio"/> | <input type="radio"/> |

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

Check **one** circle for each line.

|                                        | Yes                   | No                    |
|----------------------------------------|-----------------------|-----------------------|
| a) Mathematics -----<br>ATBLG05BA      | <input type="radio"/> | <input type="radio"/> |
| b) Science -----<br>ATBLG05BB          | <input type="radio"/> | <input type="radio"/> |
| c) Language/reading -----<br>ATBLG05BC | <input type="radio"/> | <input type="radio"/> |
| d) Other subject -----<br>ATBLG05BD    | <input type="radio"/> | <input type="radio"/> |

**G6**

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

Check **one** circle for each line.

Very high  
High  
Medium  
Low  
Very low

a) Teachers' understanding of the school's curricular goals

ATBLG06A

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

ATBLG06B

c) Teachers' expectations for student achievement

ATBLG06C

d) Teachers' ability to inspire students

ATBLG06D

e) Parental involvement in school activities

ATBLG06E

f) Parental commitment to ensure that students are ready to learn

ATBLG06F

g) Parental expectations for student achievement

ATBLG06G

h) Parental support for student achievement

ATBLG06H

i) Students' desire to do well in school

ATBLG06I

j) Students' ability to reach school's academic goals

ATBLG06J

k) Students' respect for classmates who excel academically

ATBLG06K

**G7**

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

Check **one** circle for each line.

Very often  
Often  
Sometimes  
Never or almost never

a) I am content with my profession as a teacher

ATBLG07A

b) I find my work full of meaning and purpose

ATBLG07B

c) I am enthusiastic about my job

ATBLG07C

d) My work inspires me

ATBLG07D

e) I am proud of the work I do

ATBLG07E

f) I feel appreciated as a teacher

ATBLG07F

g) I enjoy the challenges of teaching

ATBLG07G

## About Teaching the <TIMSS Class>

**G8**

**A. How many students are in <this class>?**

ATBLG08A \_\_\_\_\_ students  
Write in the number.

**B. How many of the students in #G8A are in <fifth grade>?**

ATBLG08B \_\_\_\_\_ <fifth grade> students  
Write in the number.

**G9**

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

ATBLG09 \_\_\_\_\_ students in this class  
Write in the number.

**G10**

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

Check **one** circle for each line.

Every or almost every lesson

About half the lessons

Some lessons

Never

a) Relate the lesson to students' daily lives ----- ☐ — ☐ — ☐ — ☐

b) Ask students to explain their answers ----- ☐ — ☐ — ☐ — ☐

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

d) Ask students to complete challenging exercises that require them to go beyond the instruction ----- ☐ — ☐ — ☐ — ☐

e) Encourage classroom discussions among students ----- ☐ — ☐ — ☐ — ☐

f) Link new content to students' prior knowledge ----- ☐ — ☐ — ☐ — ☐

g) Ask students to decide their own problem solving procedures ----- ☐ — ☐ — ☐ — ☐

# G11

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

Check **one** circle for each line.

|          |                                                                               | Not at all            | Some                  | A lot                 |
|----------|-------------------------------------------------------------------------------|-----------------------|-----------------------|-----------------------|
| ATBLG11A | a) Students lacking prerequisite knowledge or skills -----                    | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ATBLG11B | b) Students suffering from lack of basic nutrition -----                      | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ATBLG11C | c) Students suffering from not enough sleep -----                             | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ATBLG11D | d) Students absent from class ----                                            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ATBLG11E | e) Disruptive students -----                                                  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ATBLG11F | f) Uninterested students -----                                                | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ATBLG11G | g) Distracted students -----                                                  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ATBLG11H | h) Students with mental, emotional, or psychological impairment -----         | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ATBLG11I | i) Students with difficulties understanding the language of instruction ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

# Teaching Mathematics to the <TIMSS Class>

## M1

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

ATBLM01

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

## M2

In teaching mathematics to this class, how often do you ask students to do the following?

Check **one** circle for each line.

Every or almost every lesson

About half the lessons

Some lessons

Never

a) Listen to me explain new mathematics content ----- ☐ — ☐ — ☐ — ☐

b) Listen to me explain how to solve problems ----- ☐ — ☐ — ☐ — ☐

c) Memorize rules, procedures, and facts ----- ☐ — ☐ — ☐ — ☐

d) Practice procedures on their own ----- ☐ — ☐ — ☐ — ☐

e) Apply what they have learned to new problem situations on their own ----- ☐ — ☐ — ☐ — ☐

f) Work problems together in the whole class with direct guidance from me ----- ☐ — ☐ — ☐ — ☐

g) Work in mixed ability groups -- ☐ — ☐ — ☐ — ☐

h) Work in same ability groups -- ☐ — ☐ — ☐ — ☐

ATBLM02H

## M3

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

Check **one** circle for each line.

Very confident

Somewhat confident

Not confident

a) Help students appreciate the value of learning mathematics ----- ☐ — ☐ — ☐

b) Show students a variety of problem solving strategies ----- ☐ — ☐ — ☐

c) Adapt teaching to engage students' interests ----- ☐ — ☐ — ☐

d) Develop students' higher-order thinking skills ----- ☐ — ☐ — ☐

e) Make mathematics relevant to students ----- ☐ — ☐ — ☐

f) Provide challenging mathematics activities for excelling students ----- ☐ — ☐ — ☐

g) Improve mathematics understanding of struggling students ----- ☐ — ☐ — ☐

h) Assess students' comprehension of mathematics content ----- ☐ — ☐ — ☐

## M4

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

ATBLM04A

Check **one** circle only.

Yes --- ☐

No --- ☐

(If No, go to #M5)

**If Yes,**

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

Check **one** circle for each line.

Yes

No

ATBLM04BA a) The class has digital devices for each student to use ----- ☐ — ☐

ATBLM04BB b) The class has digital devices that students can share ----- ☐ — ☐

ATBLM04BC c) The school has digital devices that the class can use sometimes ----- ☐ — ☐

ATBLM04BD d) Students bring their own digital devices ----- ☐ — ☐

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

ATBLM04C

Check **one** circle only.

At least once a week --- ☐

Once or twice a month --- ☐

A few times a year --- ☐

Never or almost never --- ☐

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

Check **one** circle for each line.

At least once a week

Once or twice a month

A few times a year

Never or almost never

ATBLM04DA a) Practice problems and procedures ----- ☐ — ☐ — ☐ — ☐

ATBLM04DB b) Solve extended or contextualized problems ----- ☐ — ☐ — ☐ — ☐

ATBLM04DC c) Create graphs, tables, or other data displays ----- ☐ — ☐ — ☐ — ☐

ATBLM04DD d) Play games involving mathematics calculations or concepts ----- ☐ — ☐ — ☐ — ☐

ATBLM04DE e) Read the textbook or watch instructional videos ----- ☐ — ☐ — ☐ — ☐

ATBLM04DF f) Take a test ----- ☐ — ☐ — ☐ — ☐

## M5

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 <fifth 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 <fifth 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 -----                    | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | ATBLM05AA |
| b) Add and subtract up to 4-digit numbers -----                           | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | ATBLM05AB |
| c) Multiply up to 3-digit by 1-digit and 2-digit by 2-digit numbers ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | ATBLM05AC |
| d) Divide up to 3-digit by 1-digit numbers -----                          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | ATBLM05AD |
| e) Solve problems with odd/even numbers, multiples, or factors -----      | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | ATBLM05AE |
| f) Round or make estimations with whole numbers -----                     | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | ATBLM05AF |
| g) Find the missing number or operation in a number sentence -----        | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | ATBLM05AG |
| h) Extend a number pattern or find the missing number in a pattern -----  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | ATBLM05AH |
| i) Represent, compare, and order fractions -----                          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | ATBLM05AI |
| j) Add and subtract simple fractions -----                                | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | ATBLM05AJ |
| k) Represent, compare, and order decimals up to two decimal places -----  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | ATBLM05AK |
| l) Add and subtract with decimals up to two decimal places -----          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | ATBLM05AL |

### B. Measurement and Geometry

- |                                                                                                                         |                       |                       |                       |           |
|-------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-----------------------|-----------|
| a) Measure, estimate, add, and subtract lengths -----                                                                   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | ATBLM05BA |
| b) Add and subtract mass, volume, or time in appropriate units -----                                                    | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | ATBLM05BB |
| c) Find perimeters of polygons -----                                                                                    | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | ATBLM05BC |
| d) Find areas of shapes covered with squares or volumes of shapes filled with cubes -----                               | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | ATBLM05BD |
| e) Recognize and draw parallel and perpendicular lines -----                                                            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | ATBLM05BE |
| f) Compare and draw angles -----                                                                                        | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | ATBLM05BF |
| g) Describe and draw common two-dimensional shapes (e.g., circles, triangles, quadrilaterals) -----                     | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | ATBLM05BG |
| h) Describe and draw common three-dimensional shapes (e.g., cubes, rectangular solids, cones, cylinders, spheres) ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | ATBLM05BH |

### C. Data

- |                                                         |                       |                       |                       |           |
|---------------------------------------------------------|-----------------------|-----------------------|-----------------------|-----------|
| a) Read and interpret data displays -----               | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | ATBLM05CA |
| b) Create or complete data displays -----               | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | ATBLM05CB |
| c) Draw conclusions from two or more data sources ----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | ATBLM05CC |

## M6

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

ATBLM06A

Check **one** circle only.

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

Less than once a week --- ☐

1 or 2 times a week --- ☐

3 or 4 times a week --- ☐

Every day --- ☐

### B. 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

ATBLM06BA a) Correct assignments and give feedback to students ----- ☐ --- ☐ --- ☐

ATBLM06BB b) Discuss the homework in class ----- ☐ --- ☐ --- ☐

ATBLM06BC c) Monitor whether or not the homework was completed ----- ☐ --- ☐ --- ☐

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

ATBLM06C

Check **one** circle only.

15 minutes or less --- ☐

16-30 minutes --- ☐

31-60 minutes --- ☐

More than 60 minutes --- ☐

## M7

### 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

ATBLM07A a) Observing students as they work ----- ☐ --- ☐ --- ☐

ATBLM07B b) Asking students to answer questions during class ----- ☐ --- ☐ --- ☐

ATBLM07C c) Short, regular written assessments ----- ☐ --- ☐ --- ☐

ATBLM07D d) Longer tests (e.g., unit tests or exams) ----- ☐ --- ☐ --- ☐

ATBLM07E e) Long-term projects ----- ☐ --- ☐ --- ☐

## M8

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

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

Check **one** circle for each line.

Check **one** circle for each line.

|                                                                                   | Yes                   | No                    | Yes                   | No                    |           |
|-----------------------------------------------------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------|
| ATBLM08AA a) Mathematics content -----                                            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | ATBLM08BA |
| ATBLM08AB b) Mathematics pedagogy/ instruction-----                               | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | ATBLM08BB |
| ATBLM08AC c) Mathematics curriculum--                                             | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | ATBLM08BC |
| ATBLM08AD d) Integrating technology into mathematics instruction-----             | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | ATBLM08BD |
| ATBLM08AE e) Improving students' critical thinking or problem solving skills----- | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | ATBLM08BE |
| ATBLM08AF f) Mathematics assessment -                                             | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | ATBLM08BF |
| ATBLM08AG g) Addressing individual students' needs-----                           | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | ATBLM08BG |

**S1**

**A. Is science taught mainly as a separate subject (i.e., not integrated with other subjects) to the students in this class?**

ATBLS01A

Check **one** circle only.

Yes --- ☐

No --- ☐

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

ATBLS01B

\_\_\_\_\_ minutes per week

Write in the number of minutes per week.

Please convert the number of hours into minutes.

**S2**

**In teaching science to the students in this class, how often do you ask them to do the following?**

Check **one** circle for each line.

Every or almost every lesson

About half the lessons

Some lessons

Never

a) Listen to me explain new science content ----- ☐ ☐ ☐ ☐

b) Observe natural phenomena such as the weather or a plant growing and describe what they see ----- ☐ ☐ ☐ ☐

c) Watch me demonstrate an experiment or investigation --- ☐ ☐ ☐ ☐

d) Read their textbooks or other resource materials ----- ☐ ☐ ☐ ☐

e) Memorize facts and principles ----- ☐ ☐ ☐ ☐

f) Do field work outside the class ----- ☐ ☐ ☐ ☐

g) Work in mixed ability groups ----- ☐ ☐ ☐ ☐

h) Work in same ability groups ----- ☐ ☐ ☐ ☐

**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 ----- ☐ ☐ ☐

b) Having students predict the outcomes of experiments or investigations ----- ☐ ☐ ☐

c) Having students create representations (e.g., models, graphs) to explain scientific phenomena ----- ☐ ☐ ☐

d) Having students use scientific concepts to explain phenomena ----- ☐ ☐ ☐

e) Having students conduct experiments (hands-on or virtually) ----- ☐ ☐ ☐

## S4

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

Check **one** circle for each line.

Very confident  
Somewhat confident  
Not confident

- ATBLS04A a) Help students appreciate the value of learning science ----- ☐ — ☐ — ☐
- ATBLS04B b) Explain science concepts or principles using experiments or other hands-on activities --- ☐ — ☐ — ☐
- ATBLS04C c) Adapt teaching to engage students' interests ----- ☐ — ☐ — ☐
- ATBLS04D d) Develop students' higher-order thinking skills ----- ☐ — ☐ — ☐
- ATBLS04E e) Make science relevant to students ----- ☐ — ☐ — ☐
- ATBLS04F f) Provide challenging science activities for excelling students----- ☐ — ☐ — ☐
- ATBLS04G g) Improve science understanding of struggling students----- ☐ — ☐ — ☐
- ATBLS04H h) Assess students' comprehension of science content----- ☐ — ☐ — ☐
- ATBLS04I i) Incorporate inquiry methods into science teaching----- ☐ — ☐ — ☐
- ATBLS04J j) Manage student behavior during experiments or other hands-on activities ----- ☐ — ☐ — ☐

## S5

**How often do you do the following when teaching this class?**

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

- ATBLS05A a) Develop students' positive attitudes toward the natural environment ----- ☐ — ☐ — ☐ — ☐
- ATBLS05B b) Encourage students to use less resources (e.g., <water, energy>)----- ☐ — ☐ — ☐ — ☐
- ATBLS05C c) Discuss how student actions in and outside of school can help the natural environment - ☐ — ☐ — ☐ — ☐
- ATBLS05D d) Discuss environmental issues (e.g., <climate change, endangered animals>)----- ☐ — ☐ — ☐ — ☐

## S6

**Do you do these things to teach students about environmental issues and sustainability?**

Check **one** circle for each line.

Yes  
No

- ATBLS06A a) Take students to visit natural areas (e.g., <a pond or meadow>)----- ☐ — ☐
- ATBLS06B b) Have students participate in environmentally responsible activities (e.g., <pick up trash>) -- ☐ — ☐
- ATBLS06C c) Have students do research or projects on a particular environmental topic (e.g., <pollution, climate change>)----- ☐ — ☐
- ATBLS06D d) Provide opportunities for students to participate in outdoor environmental education programs outside of school ----- ☐ — ☐

S7

**How much do you agree or disagree that education about environmental sustainability should be a priority for schools?**

ATBLS07

Check **one** circle only.

- Agree a lot ---- ☐
- Agree a little --- ☐
- Disagree a little --- ☐
- Disagree a lot --- ☐

S8

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

ATBLS08A

Check **one** circle only.

Yes --- ☐

No --- ☐

(If No, go to #S9)

### If Yes,

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

Check **one** circle for each line.

Yes

No

ATBLS08BA a) The class has digital devices for each student to use ----- ☐ ☐

ATBLS08BB b) The class has digital devices that students can share ----- ☐ ☐

ATBLS08BC c) The school has digital devices that the class can use sometimes ----- ☐ ☐

ATBLS08BD d) Students bring their own digital devices ----- ☐ ☐

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

ATBLS08C

Check **one** circle only.

At least once a week --- ☐

Once or twice a month --- ☐

A few times a year --- ☐

Never or almost never --- ☐

## D. How often do you ask the students in your class to use digital devices to do these science 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

ATBLS08DA a) Solve extended or contextualized problems ----- ☐ ☐ ☐ ☐

ATBLS08DB b) Create graphs, tables, or other data displays ----- ☐ ☐ ☐ ☐

ATBLS08DC c) Play games involving science concepts ----- ☐ ☐ ☐ ☐

ATBLS08DD d) Conduct virtual experiments or other simulations ----- ☐ ☐ ☐ ☐

ATBLS08DE e) Read the textbook or watch instructional videos ----- ☐ ☐ ☐ ☐

ATBLS08DF f) Take a test ----- ☐ ☐ ☐ ☐

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 <fifth 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 <fifth grade> curriculum for this year or you have not yet taught a topic, choose "Not yet taught."

Check **one** circle for each line.

|                                                                                                      | <div>Mostly taught before this year</div> <div>Mostly taught this year</div> <div>Not yet taught</div> |                       |                       |           |
|------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-----------|
| <b>A. Life Science</b>                                                                               |                                                                                                        |                       |                       |           |
| a) Basic differences between living and nonliving things -----                                       | <input type="radio"/>                                                                                  | <input type="radio"/> | <input type="radio"/> | ATBLS09AA |
| b) Defining characteristics of major groups of living things -----                                   | <input type="radio"/>                                                                                  | <input type="radio"/> | <input type="radio"/> | ATBLS09AB |
| c) Functions of major structures in living things (e.g., roots in plants) -----                      | <input type="radio"/>                                                                                  | <input type="radio"/> | <input type="radio"/> | ATBLS09AC |
| d) Life cycle stages of common plants and animals (e.g., flowering plants, frogs) -----              | <input type="radio"/>                                                                                  | <input type="radio"/> | <input type="radio"/> | ATBLS09AD |
| e) Inherited characteristics of living things -----                                                  | <input type="radio"/>                                                                                  | <input type="radio"/> | <input type="radio"/> | ATBLS09AE |
| f) How living things survive in their environments (e.g., physical characteristics, behaviors) ----- | <input type="radio"/>                                                                                  | <input type="radio"/> | <input type="radio"/> | ATBLS09AF |
| g) How human actions impact the environment -----                                                    | <input type="radio"/>                                                                                  | <input type="radio"/> | <input type="radio"/> | ATBLS09AG |
| h) Common ecosystems and their organisms (e.g., forest, desert) -----                                | <input type="radio"/>                                                                                  | <input type="radio"/> | <input type="radio"/> | ATBLS09AH |
| i) Interpreting simple food chains -----                                                             | <input type="radio"/>                                                                                  | <input type="radio"/> | <input type="radio"/> | ATBLS09AI |
| j) Competition within ecosystems -----                                                               | <input type="radio"/>                                                                                  | <input type="radio"/> | <input type="radio"/> | ATBLS09AJ |
| k) Ways for humans to maintain good health and avoid illness -----                                   | <input type="radio"/>                                                                                  | <input type="radio"/> | <input type="radio"/> | ATBLS09AK |
| <b>B. Physical Science</b>                                                                           |                                                                                                        |                       |                       |           |
| a) Solids, liquids, gases, and how their shapes and volumes differ -----                             | <input type="radio"/>                                                                                  | <input type="radio"/> | <input type="radio"/> | ATBLS09BA |
| b) Grouping objects based on their physical properties -----                                         | <input type="radio"/>                                                                                  | <input type="radio"/> | <input type="radio"/> | ATBLS09BB |
| c) Examples of mixtures and how they can be separated (e.g., filtration, evaporation) -----          | <input type="radio"/>                                                                                  | <input type="radio"/> | <input type="radio"/> | ATBLS09BC |
| d) Magnetic attraction and repulsion -----                                                           | <input type="radio"/>                                                                                  | <input type="radio"/> | <input type="radio"/> | ATBLS09BD |
| e) Examples of physical and chemical changes in everyday life -----                                  | <input type="radio"/>                                                                                  | <input type="radio"/> | <input type="radio"/> | ATBLS09BE |
| f) How to make solids dissolve faster in liquids (e.g., stirring, heating) -----                     | <input type="radio"/>                                                                                  | <input type="radio"/> | <input type="radio"/> | ATBLS09BF |
| g) Concentration of solutions -----                                                                  | <input type="radio"/>                                                                                  | <input type="radio"/> | <input type="radio"/> | ATBLS09BG |
| h) Sources of energy (e.g., the Sun, wind, water, coal, oil, and gas) -----                          | <input type="radio"/>                                                                                  | <input type="radio"/> | <input type="radio"/> | ATBLS09BH |
| i) How light is related to shadows, reflections, and rainbows -----                                  | <input type="radio"/>                                                                                  | <input type="radio"/> | <input type="radio"/> | ATBLS09BI |
| j) How vibrations are related to sound -----                                                         | <input type="radio"/>                                                                                  | <input type="radio"/> | <input type="radio"/> | ATBLS09BJ |
| k) Movement of heat from hotter to cooler objects -----                                              | <input type="radio"/>                                                                                  | <input type="radio"/> | <input type="radio"/> | ATBLS09BK |
| l) Simple electrical circuits -----                                                                  | <input type="radio"/>                                                                                  | <input type="radio"/> | <input type="radio"/> | ATBLS09BL |
| m) How motion is affected by forces (e.g., gravity, pushing, pulling, friction) -----                | <input type="radio"/>                                                                                  | <input type="radio"/> | <input type="radio"/> | ATBLS09BM |
| n) Examples of simple machines (e.g., levers, ramps) -----                                           | <input type="radio"/>                                                                                  | <input type="radio"/> | <input type="radio"/> | ATBLS09BN |

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. Earth Science

- |                                                                                       | Mostly taught before this year | Mostly taught this year | Not yet taught        |           |
|---------------------------------------------------------------------------------------|--------------------------------|-------------------------|-----------------------|-----------|
| a) Composition of Earth's surface (i.e., land, fresh water, salt water) -----         | <input type="radio"/>          | <input type="radio"/>   | <input type="radio"/> | ATBLS09CA |
| b) Earth's resources and their use by humans -----                                    | <input type="radio"/>          | <input type="radio"/>   | <input type="radio"/> | ATBLS09CB |
| c) Renewable and nonrenewable resources -----                                         | <input type="radio"/>          | <input type="radio"/>   | <input type="radio"/> | ATBLS09CC |
| d) How wind and water change Earth's surface over time -----                          | <input type="radio"/>          | <input type="radio"/>   | <input type="radio"/> | ATBLS09CD |
| e) What fossils can show about Earth's history -----                                  | <input type="radio"/>          | <input type="radio"/>   | <input type="radio"/> | ATBLS09CE |
| f) How weather changes day to day and with geographic location -----                  | <input type="radio"/>          | <input type="radio"/>   | <input type="radio"/> | ATBLS09CF |
| g) Effects of increasing temperatures on Earth -----                                  | <input type="radio"/>          | <input type="radio"/>   | <input type="radio"/> | ATBLS09CG |
| h) Composition of the Solar System (the Sun, Earth, Moon, and other planets) -----    | <input type="radio"/>          | <input type="radio"/>   | <input type="radio"/> | ATBLS09CH |
| i) How the Moon's movement around the Earth changes its appearance -----              | <input type="radio"/>          | <input type="radio"/>   | <input type="radio"/> | ATBLS09CI |
| j) How Earth's rotation causes day and night -----                                    | <input type="radio"/>          | <input type="radio"/>   | <input type="radio"/> | ATBLS09CJ |
| k) How Earth's annual movement around the Sun causes seasons or seasonal change ----- | <input type="radio"/>          | <input type="radio"/>   | <input type="radio"/> | ATBLS09CK |

**S10**

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

ATBLS10A

Check **one** circle only.

I do not assign science homework --- ☐   
(Go to #S11)

Less than once a week --- ☐

1 or 2 times a week --- ☐

3 or 4 times a week --- ☐

Every day --- ☐

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

Check **one** circle for each line.

Always or almost always

Sometimes

Never or almost never

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

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

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

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

ATBLS10C

Check **one** circle only.

15 minutes or less --- ☐

16-30 minutes --- ☐

31-60 minutes --- ☐

More than 60 minutes --- ☐

**S11**

**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 ----- ☐ — ☐ — ☐

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

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

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

e) Long-term projects ----- ☐ — ☐ — ☐

S12

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

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

Check **one** circle for each line.

Check **one** circle for each line.

Yes No

Yes No

a) Science content ----- ☐ ----- ☐ ----- ☐ ----- ☐ ATBLS12BA

ATBLS12AA

b) Science pedagogy/ instruction ----- ☐ ----- ☐ ----- ☐ ----- ☐ ATBLS12BB

ATBLS12AB

c) Science curriculum ----- ☐ ----- ☐ ----- ☐ ----- ☐ ATBLS12BC

ATBLS12AC

d) Integrating technology into science instruction --- ☐ ----- ☐ ----- ☐ ----- ☐ ATBLS12BD

ATBLS12AD

e) Improving students' critical thinking or inquiry skills ----- ☐ ----- ☐ ----- ☐ ----- ☐ ATBLS12BE

ATBLS12AE

f) Science assessment ----- ☐ ----- ☐ ----- ☐ ----- ☐ ATBLS12BF

ATBLS12AF

g) Addressing individual students' needs ----- ☐ ----- ☐ ----- ☐ ----- ☐ ATBLS12BG

ATBLS12AG

h) Integrating science with other subjects (e.g., mathematics, technology) ----- ☐ ----- ☐ ----- ☐ ----- ☐ ATBLS12BH

ATBLS12AH

i) Integrating environmentalism and sustainability into science instruction --- ☐ ----- ☐ ----- ☐ ----- ☐ ATBLS12BI

ATBLS12AI

# Thank You

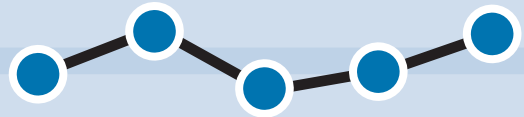
**Thank you for the thought, time, and effort you have put into completing this questionnaire.**



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