



ENROLL NOW TO PARTICIPATE IN TIMSS 2019

- Monitor system-level achievement trends in a global context
- Use TIMSS 2019 results to inform educational policy, and monitor the impact of new or revised policies
- Pinpoint any underperforming areas, and stimulate curriculum reform
- See how the fourth grade cohort from 2015 performs at the eighth grade in 2019
- Obtain important questionnaire information about the home and school contexts for teaching and learning

TIMSS, **TIMSS Numeracy**, and **eTIMSS** are projects of **IEA** (International Association for the Evaluation of Educational Achievement). Headquartered in Amsterdam, **IEA** has conducted international comparative studies of educational achievement since 1959.

The **TIMSS** projects are directed by the **TIMSS & PIRLS International Study Center at Boston College**. **TIMSS** together with **PIRLS**, which assesses reading, comprise **IEA's** core cycle of studies about achievement in three fundamental subjects—mathematics, science, and reading.

SCHEDULE HIGHLIGHTS:

TIMSS 2019

2017
February

Updated Frameworks reviewed at 1st National Research Coordinators meeting

2018
March

TIMSS 2019 Field Test assessment instruments

2018
October

Data Collection Southern Hemisphere

2019
April

Data Collection Northern Hemisphere

2020
December

Data Release/ International Results in Mathematics and Science

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International Association
for the Evaluation of
Educational Achievement

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BOSTON
COLLEGE



TIMSS 2019

Trends in
International
Mathematics and
Science Study



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

TIMSS 2019

MONITOR MATHEMATICS AND SCIENCE ACHIEVEMENT IN A GLOBAL CONTEXT

IEA's TIMSS enables countries around the world to make evidence-based decisions to improve educational policy. Marking 24 years of trend data since 1995, TIMSS will conduct its seventh assessment in 2019 in more than 60 countries.

Conducted every four years at the fourth and eighth grades, TIMSS has a quasi-longitudinal design, with the fourth grade student cohort assessed four years later at the eighth grade.

Assessing fourth grade students can provide an early warning for necessary curricular reforms, and the effectiveness of these reforms can be further monitored at the eighth grade.

USE TIMSS ACHIEVEMENT RESULTS TO IMPROVE YOUR CURRICULUM AND INSTRUCTION

TIMSS is built on collaboration among the countries every step of the way, from deciding the assessment goals to developing the tests, assessing the students,

and reporting the results.

TIMSS mathematics and science assessments are based on comprehensive frameworks updated for every cycle. Each assessment includes about 350 items at the fourth grade and 450 items at the eighth grade to assess the framework goals. To keep each assessment up to date and relevant, newly created items comprise a



substantial portion (40 percent) of each cycle.

TIMSS profiles across content domains provide a solid basis for addressing curricular weaknesses. TIMSS assesses a range of problem solving and inquiry situations, with about two-thirds of the items requiring students to use applying and reasoning skills. Also, item-by-item diagnostic information creates a rich resource for teacher professional development.

IDENTIFY GAPS IN LEARNING RESOURCES AND OPPORTUNITIES

Fourth Grade Content Domains

50%	Number
35%	Geometric Shapes and Measures
15%	Data Display

Fourth Grade Cognitive Domains

40%	Knowing
40%	Applying
20%	Reasoning

Eighth Grade Content Domains

30%	Number
30%	Algebra
20%	Geometry
20%	Data and Chance

Eighth Grade Cognitive Domains

35%	Knowing
40%	Applying
25%	Reasoning

TIMSS collects extensive information about students' home and school contexts for learning. TIMSS questionnaire results can be examined in relation to achievement to reveal inequities in students' environments and experiences.

TIMSS allows countries to compare their educational structures and instructional approaches. Important policy relevant variables can be explored, such as:

- **System structure and organization**
- **Curricular emphasis**
- **Instructional practices**
- **Technology in the classroom**
- **Student attitudes toward learning**

TIMSS RESULTS SHOW ...

- ✓ **Successful schools emphasize academic excellence and a safe and orderly environment**
- ✓ **High achieving fourth grade students start school equipped with literacy and numeracy skills, often from having engaged in early learning activities at home and attending preprimary education**

TIMSS Numeracy 2019

EXTENDING MEASUREMENT OF THE FOURTH GRADE MATHEMATICS SCALE

TIMSS Numeracy measures learning outcomes at the fourth grade for countries where most children are still developing fundamental mathematics skills. It assesses fundamental knowledge, procedures, and problem solving in the content domains of whole numbers, fractions, and geometric shapes and measures. Countries participating at the fourth grade can conduct TIMSS Numeracy in addition to TIMSS 2019, or conduct TIMSS Numeracy by itself. In either case, the Numeracy achievement results will be reported on the TIMSS 2019 mathematics achievement scale.



NEW FOR 2019

eTIMSS 2019

eTIMSS 2019, the computerized version of TIMSS, will assess complex areas of the framework that are difficult to measure with paper and pencil. eTIMSS will increase operational efficiency in item development, translation, printing and shipping, and data entry and scoring. To maintain trends and replicate the current response experience, the TIMSS trend items will be converted to a tablet and stylus format. Newly developed eTIMSS items will include problem solving and inquiry tasks that simulate real world and laboratory situations. Such tasks will involve integrating and applying process skills and content knowledge, and deliver an engaging, interactive, and visually attractive assessment experience. For more information, visit timssandgirls.bc.edu and iea.nl.