IEA

TIMSS 2027

TRENDS IN INTERNATIONAL MATHEMATICS AND SCIENCE STUDY

32 YEARS OF TRENDS

KEY FEATURES OF TIMSS 2027

- Curriculum-based frameworks for assessing mathematics and science achievement
- Computer-based assessment engaging students through innovative tasks
- Policy-relevant information on contexts for learning mathematics and science
- Group adaptive assessment design to ensure engagement and alignment with student populations
- Enhanced international reporting to explore results interactively

Assessing Mathematics and Science Achievement in a Digital World

IEA's TIMSS is a digital assessment that captures an accurate picture of fourth- and eighth-grade students' mathematics and science achievement and contextual data about their learning experiences. Conducted every four years since 1995, TIMSS 2027 will provide more than three decades of achievement trend data.

TIMSS 2027 employs state-of-the-art methods to create engaging assessments in mathematics and science. Using rigorous school and classroom sampling techniques, crafting thought-provoking questions, assembling item blocks, and analyzing and report results, TIMSS reflects the latest research and best practices based on decades of experience in international large-scale student assessment.

Innovations in TIMSS 2027

Expanding Mathematics and Science Coverage

TIMSS 2027 expands coverage in mathematics and science by improving how skills are measured at different levels of achievement, ensuring a comprehensive view of student achievement across populations and over time.

TIMSS' commitment to providing quality data that supports education continues. The mathematics and science assessment frameworks are updated each cycle to reflect the participating countries' current curricula, standards, and frameworks , as well as research and policy priorities.

TIMSS 2027 mathematics and science frameworks will integrate problem-solving and inquiry processes across content areas. TIMSS acknowledges that environmental literacy is important in our rapidly changing world, and the coverage of this domain will be fully developed in TIMSS 2027 to include environmental knowledge and awareness questions.

Contexts for Learning Mathematics and Science

TIMSS 2027 aims to capture not only academic achievement, but also valuable data that helps contextualize that achievement for educators, researchers, and policymakers.

TIMSS 2027 continues to collect policy-relevant information using questionnaires completed by students and their parents, classroom teachers, and principals about experiences in learning mathematics and science at school and at home. Understanding the context in which students learn, and how that may affect achievement, can better inform curriculum and educational policy decisions. The TIMSS Encyclopedia includes chapters authored by country representatives describing countries' education systems and mathematics and science curricula.

Process data captures the steps students take to answer questions on the assessment, offering a better understanding of students' experience of the test items and their approach to solving problems.

Sharper Focus on Research

The TIMSS Insights Series provides a closer look at specific educational research topics using TIMSS data.

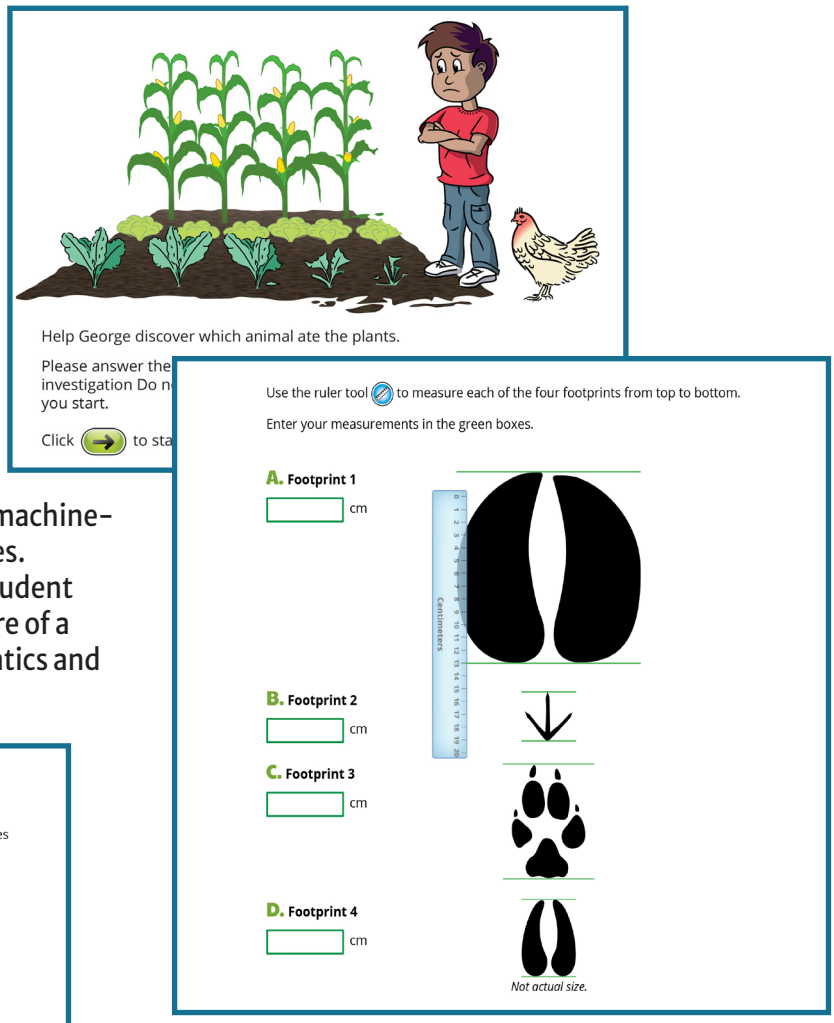
TIMSS expands the focus on research beyond the initial publication of international results. Publications in the Insights series use mathematics and science achievement as well as contextual data to explore topics of current interest and dive deep into research questions that can inform stakeholders, policymakers, and educational researchers.

Modern Assessment Development Methods

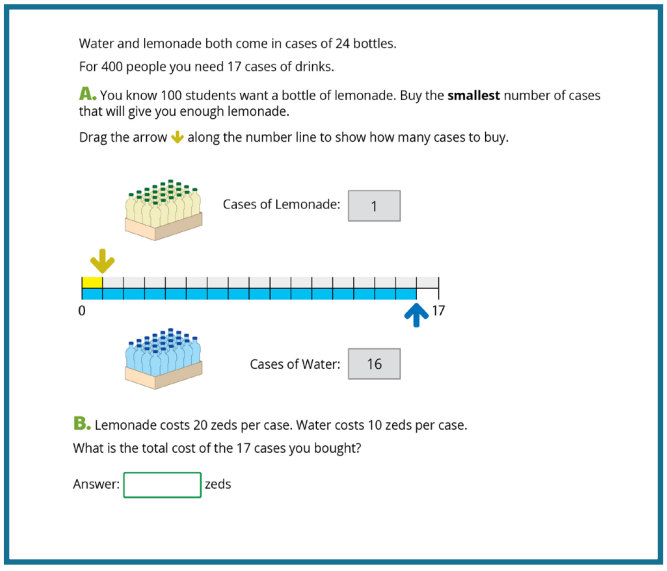
TIMSS 2027 employs state-of-the-art methods to create assessment items that enhance student engagement and motivation and reflect the latest research and best practices.

TIMSS 2027 integrates more authentic item types beyond traditional multiple-choice questions and other traditional formats, allowing students to demonstrate deeper understanding and critical thinking. Interactive response formats, such as free drawing and on-screen constructions of graphs and diagrams, are combined with more traditional response formats such as selection items and open-response items.

The all-digital format of TIMSS allows for improved scoring procedures that leverage cutting-edge advancements in educational assessment, including automated scoring and machine-supported human scoring of extended responses. This ensures a fair and accurate evaluation of student performance, providing a comprehensive picture of a country's strengths and challenges in mathematics and science achievement.



As part of an investigation to find what animal is eating the plants in a garden, this science task involves a boy who measures animal footprints to gather evidence.



This mathematics item asks the student to determine the cost and the amount of drinks to buy as part of planning a school party.

Adaptive Design for Diverse Populations

The TIMSS 2027 adaptive assessment design caters to a wider range of student populations.

Whether the schools in an education system are large or small, urban or rural, TIMSS ensures equitable representation and meaningful insights. The TIMSS group adaptive design enables a more precise assessment of student achievement, improving measurement at the lower and higher ends of the achievement scale and supporting student motivation. TIMSS 2027 includes design adaptivity to fit a diverse student population better. Students see more items suited to their abilities, resulting in a test that better captures that population's achievement range.

TIMSS 2027

32 Years of Trends

For over three decades, **TIMSS** has been at the forefront of monitoring global trends in student achievement. By participating, a country gains access to invaluable data for monitoring progress, identifying potential areas of improvement, and making informed policy decisions.

Participation

By participating in **TIMSS 2027**, countries can contribute to shaping the future of education by empowering students, educators, and policymakers with data-driven insights. Entities such as regions (e.g., states or provinces) or additional grades (e.g., fifth grade) may enroll as benchmarking participants in the same way as countries.

Participants receive a comprehensive set of data and publications:

- TIMSS 2027 Frameworks
- National datasets (achievement and context questionnaire data)
- TIMSS 2027 Encyclopedia describing national context for teaching and learning mathematics and science
- Internationally comparable results with infographics and interactive report tables
- Open Access International Database, including student process data variables and User Guide
- Methods and Procedures technical documentation
- TIMSS Insights reports highlighting research topics using TIMSS data

It is possible to re-assess the same students one year after the **TIMSS 2027** assessment to investigate students' learning gains over one year of schooling. The **TIMSS Longitudinal** option enables examining the degree of increases across instructional goals and the differences in gains across subgroups of students.

For country enrollment, contact: IEA Amsterdam Director Andrea Netten at a.netten@iea.nl

TIMSS 2027 Schedule highlights

February 2025 – First National Research Coordinators Meeting

March-April 2026 – Field Test

2027 – Data Collection

December 2028 – Release of international results

IEA

TIMSS is a project of IEA. With offices in Amsterdam and Hamburg, IEA pioneered international comparative studies. It has been conducting international assessments of educational achievement since 1959.

BOSTON COLLEGE

TIMSS is directed by the TIMSS & PIRLS International Study Center at Boston College. TIMSS and PIRLS, which assesses reading, comprise IEA's core cycle of studies. Together, these assessments provide participating countries with regular information about achievement in three fundamental subjects—mathematics, science, and reading.