

# TIMSS 2019

## Beginning Data Collection!



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IEA General Assembly  
Astana, Kazakhstan

October 9-12, 2018



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

# Overview of TIMSS 2019

## 24 Years of Trends



- 64 countries, 6 benchmarking entities
  - 4<sup>th</sup> grade: 50 + 6; 8<sup>th</sup> grade: 40 + 5
- More than half transitioning to eTIMSS
- Mathematics and science assessments
  - 28 item blocks, 400 items/grade
  - Each for eTIMSS and paper
- eTIMSS includes Problem Solving and Inquiry tasks (PSIs)
  - 4 blocks each grade – 2 mathematics, 2 science



# Countries Participating

Albania  
Armenia  
Australia  
Austria  
Azerbaijan  
Bahrain  
Belgium (Fl.)  
Bosnia and Herzegovina  
Bulgaria  
Canada  
Chile  
Chinese Taipei  
Croatia  
Cyprus  
Czech Republic  
Denmark  
Egypt  
England  
Finland  
France  
Georgia  
Germany

Hong Kong SAR  
Hungary  
Iran  
Ireland  
Israel  
Italy  
Japan  
Jordan  
Kazakhstan  
Korea  
Kosovo  
Kuwait  
Latvia  
Lebanon  
Lithuania  
Macedonia  
Malaysia  
Malta  
Montenegro  
Morocco  
Netherlands  
New Zealand

Northern Ireland  
Norway  
Oman  
Pakistan  
Philippines  
Poland  
Portugal  
Qatar  
Romania  
Russian Federation  
Saudi Arabia  
Serbia  
Singapore  
Slovak Republic  
South Africa  
Spain  
Sweden  
Turkey  
United Arab Emirates  
United States

## Benchmarking Participants

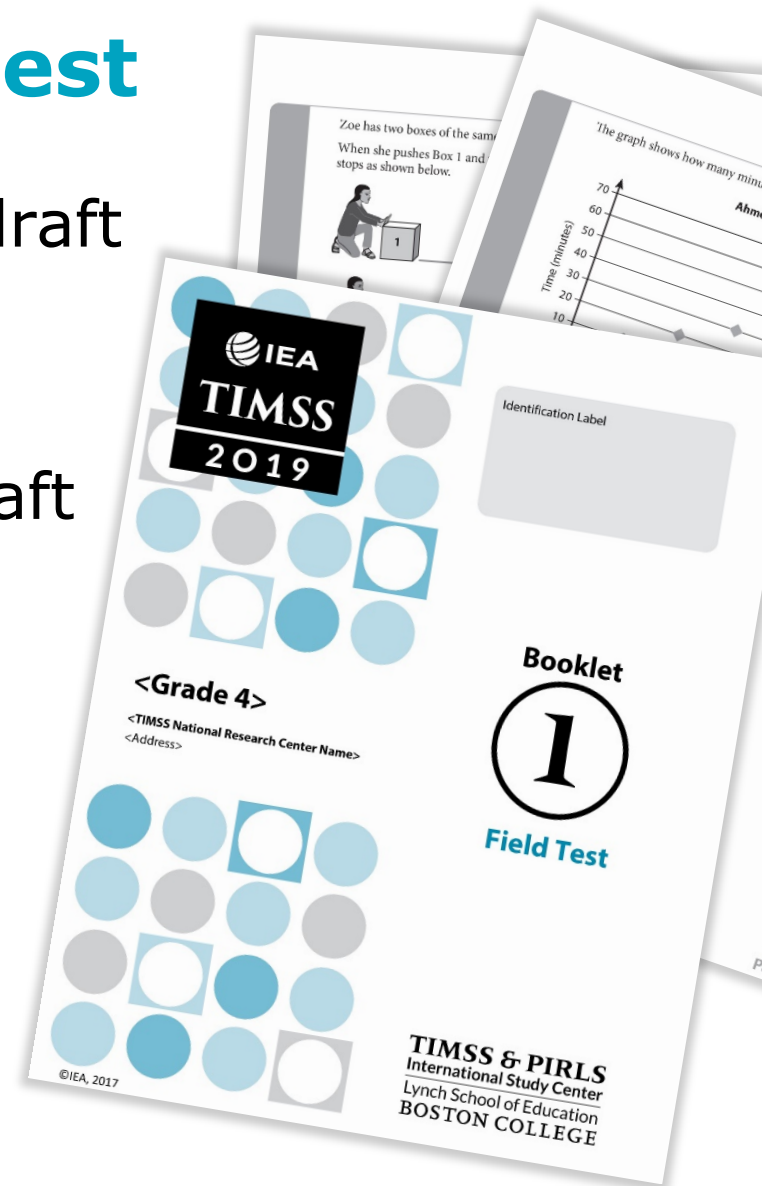
Ontario, Canada  
Quebec, Canada  
Moscow City, Russia  
Madrid, Spain  
Abu Dhabi, UAE  
Dubai, UAE





# Preparing for the Field Test

- 2<sup>nd</sup> SMIRC meeting – reviewed draft achievement items for field test (Sept., Windsor)
- 2<sup>nd</sup> QIRC meeting – reviewed draft questionnaires (Sept., Hengelo)
- 3<sup>rd</sup> NRC meeting – final review (Nov., Melbourne)
- Field test instruments available for translation (Dec.)



# TIMSS 2019 SMIRC – Science and Mathematics Item Review Committee

## Mathematics Experts

- Ray Philpot, Australia
- Kiril Bankov, Bulgaria
- Khattab Mohammad Ahmad Abu Libdeh, Jordan
- Arne Hole, Norway
- Cheow Kian Soh, Singapore
- Mary Lindquist, United States
- Linda Hall, United States



# TIMSS 2019 SMIRC – Science and Mathematics Item Review Committee

## Science Experts

- Svatava Janouskova, Czech Republic
- Emily Jones, England
- Jouni Viiri, Finland
- Berenice Michels, Netherlands
- Galina Kovaleva, Russian Federation
- Christopher Lazarro, United States



# TIMSS 2019 QIRC – Questionnaire Item Review Committee

- Sue Thomson, Australia
- Josef Basl, Czech Republic
- Heike Wendt, Germany
- Laura Palmerio, Italy
- Martina Meelissen, Netherlands
- Trude Nilsen, Norway
- Vijay Reddy, South Africa
- Jack Buckley, United States

**School Enrollment and Characteristics**

**1** What is the total enrollment of students in your school as of <first day of month TIMSS testing begins, 2019>?

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

**2** What is the total enrollment of <fourth grade> students in your school as of <first day of month TIMSS testing begins, 2019>?

\_\_\_\_\_ students  
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 ----- ☐ ☐ ☐ ☐

b) Come from economically affluent homes ----- ☐ ☐ ☐ ☐

**5** A. How many people live in the area where your school is located?

More than 500,000 people --- ☐

100,001 to 500,000 people --- ☐

50,001 to 100,000 people --- ☐

30,001 to 50,000 people --- ☐

15,001 to 30,000 people --- ☐

3,001 to 15,000 people --- ☐

3,000 people or fewer --- ☐

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

Urban—Densely populated --- ☐

Suburban—On fringe or outskirts of urban area --- ☐

Medium size city or large town --- ☐

Small town or village --- ☐

Remote rural --- ☐



# Conducting the Field Test

## March – April

- 4<sup>th</sup> grade
  - 56 + 6 countries; 73,000 students
- 8<sup>th</sup> grade
  - 36 + 5 countries; 48,500 students
- Data cleaning and validation
  - IEA Hamburg
- Psychometric analysis
  - TIMSS & PIRLS International Study center
  - Achievement and questionnaire items





# 3-Step Field Test Review Process

1. Internal review by staff of TIMSS & PIRLS International Study Center (June)
  - Mathematics and science, eTIMSS and paperTIMSS
2. Review by expert committees (July)
  - SMIRC review for achievement items - Tromsø
  - QIRC review for questionnaires - Oslo
3. Final review by National Research Coordinators (Aug)
  - 5<sup>th</sup> NRC meeting, Stockholm



# Providing Data Collection Instruments

- Post Questionnaires for data collection
  - 4<sup>th</sup> and 8<sup>th</sup> grades (Aug 30)
- Post advance versions eTIMSS for SH countries
  - 4<sup>th</sup> grade (Aug 27); 8<sup>th</sup> grade (Aug 31)
- Post 4<sup>th</sup> grade achievement items (Sept 6)
- Post 8<sup>th</sup> grade achievement items (Sept 13)
  - eTIMSS in Online Translation System
  - paperTIMSS in InDesign

# eTIMSS Assessment System

- Item Builder to enter mathematics and science items
- Online Translation System allows items to be translated and verified
- eTIMSS Player for administering assessment and capturing student responses
- Scoring System for scoring student responses
  - Online for constructed response items
  - Automated scoring for new item types, e.g., number pad, line drawing, drop-down menus, drag-and-drop



# Supporting Activities

- Right-to-left language source version
- Paper bridge instruments for eTIMSS countries
- Complete array of operations manuals
- Scoring – constructed response and machine
- Finalizing sampling plans
- Translation verification
- Layout verification
- Quality Control Monitoring

# **TIMSS 2019 Data Collection**

**Oct – Dec 2018**

**Southern Hemisphere**

**March – June 2019**

**Northern Hemisphere**

# Looking Ahead...

- Data analysis and reporting
  - Background data reviewed by NRCs (Dec 2019)
  - Sampling adjudication (Feb 2020)
  - Achievement scaling (Mar-Apr 2020)
  - Draft Report reviewed by NRCs and PEC (Jun 2020)
- Release Results (Dec 2020)
- International Database (Feb 2021)



# TIMSS 2023

## 28 years of trends!

- Complete TIMSS move to e-assessment
  - Future of paperTIMSS
- Reap the e-assessment benefits
  - Begin move to adaptive assessment
  - Expand Problem Solving and Inquiry (PSI) scope
  - Further research into process data
  - Include new ideas from countries as appropriate

# Thank You!

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