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Governing Board Approves Updated Mathematics Framework For 2025 National Assessment of Educational Progress

WASHINGTON – At its most recent quarterly meeting, the National Assessment Governing Board unanimously approved updates to a framework that will guide the development of mathematics content for the 2025 National Assessment of Educational Progress (NAEP), also known as The Nation's Report Card.

The Governing Board is a nonpartisan body that sets policy for NAEP, which provides objective information on student performance in various subjects and allows comparisons of student achievement among states, large urban districts, and various student groups. A main responsibility of the 26-member Governing Board is determining what should be tested on each NAEP assessment. This is reflected in NAEP frameworks, which are curriculum-neutral and guide the content and design of the assessments.

The updates approved by the Board for 2025 mathematics assessments for grades 4, 8, and 12 reflect modern expectations for students and address recent standards, curricula, and instruction; research on cognitive development; and the latest perspectives on what students should know and be able to do. The Board last updated the NAEP Mathematics Framework in 2006.

The most significant change for 2025 is the addition of five mathematical practices specifically identified for the NAEP Mathematics Assessment. The practices will provide a deep understanding of what it means for students to be able to know and do mathematics, reflecting decades of efforts to more clearly specify mathematical processes like "higher-order thinking" and "mathematical reasoning." NAEP Mathematical Practices are the routines, norms, and processes needed to do the work of mathematics. Intertwined with the content objectives, these practices will pave the way for a richer picture of student achievement and engagement with mathematics. They include:

- Representing: Recognizing, using, creating, interpreting, or translating among visual, symbolic, physical, and verbal representations of mathematical concepts
- Abstracting and Generalizing: Decontextualizing, identifying patterns or commonalities, and extending a student's mathematical reasoning to a broader domain appropriate for the grade level and what is being assessed
- Justifying and Proving: Creating, evaluating, showing, proving, or refuting mathematical arguments or hypotheses
- Mathematical Modeling: Making sense of a scenario, identifying a problem to be solved, representing it mathematically, finding a solution, and checking the viability of that solution
- Collaborative Mathematics: Doing mathematics with others through discussion and collaborative problem-solving whereby ideas are offered, debated, connected, and built upon toward solution and shared understanding

Other changes to the 2025 NAEP Mathematics Framework include emphasis on grade 12 mathematical literacy, which is the application of mathematical information to situations in a person's life as a community member, citizen, worker, or consumer, as well as the flexibility to introduce

scenario-based tasks—which require students to demonstrate their knowledge and skills to solve problems within realistic situations.

The comprehensive process to update the NAEP Mathematics Framework began with the creation of a framework development panel, which included a diverse array of renowned experts in curriculum and instruction – including educators, researchers, representatives from professional associations, and leaders in state and local education agencies – to guide what NAEP measures. This guidance was then open to public comment, which was reviewed by the panel and Board members and incorporated into the final set of recommendations that were ultimately adopted by the Board and will be administered through NAEP.

“NAEP is a steady barometer of change, and the new math framework will allow NAEP to continue shining a light on student progress and achievement on the mathematics knowledge and skills young people need for success as lifelong learners and empowered citizens,” said Lesley Muldoon, executive director of the National Assessment Governing Board. “The updates reflect not just a thorough process informed by professional, academic and educational research, standards, and practices, but a purposeful endeavor to reflect changes in what students have an opportunity to learn by each grade.”

To maintain NAEP’s rigor, the changes will take several years to implement as several steps are needed, including careful development of items using the guidance of the new framework and a pilot assessment slated for 2023.

The Governing Board has just begun a similar process to update the framework for NAEP Reading, with changes to be developed and eventually administered in the 2025 assessments, along with mathematics.

“As a mathematics teacher, I’m extremely confident the changes we have approved will more completely and accurately capture what students should be able to know and do in a vitally important subject,” said Mark Miller, vice chair of the Governing Board’s assessment development committee. “The thoughtful and comprehensive updates we are making to the 2025 NAEP frameworks will maintain NAEP as the gold standard of large-scale assessment and be an invaluable guide in education.”

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The National Assessment Governing Board is an independent, nonpartisan board whose members include governors, state legislators, local and state school officials, educators, business representatives and members of the general public. Congress created the 26-member Governing Board in 1988 to set policy for the National Assessment of Educational Progress. For more information about the Governing Board, visit www.nagb.gov.