How is Student Mathematics Knowledge Changing? Evidence From NAEP

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National Assessment of Educational Progress (NAEP) Mathematics Programs

- **Main NAEP** – grades 4, 8, and 12; results are representative of the entire US population (results available for each state for grades 4 and 8)

- **Long-Term Trend NAEP** – uses different items and testing schedule, national sample only, ages 9, 13, 17
NAEP Item Formats

- **Multiple Choice Format**
  - 4th grade – Four choices
  - 8th grade – Five choices
  - 12th grade – Five choices

- **Short Constructed Response**
  - Two types:
    1. Students write their answers in the space provided
    2. Multiple questions or a brief rationale (Main NAEP only)

- **Extended Constructed Response**
  - Multi-part, scored with focused holistic rubrics (Main NAEP only)
Reporting Results: Scale Scores and Achievement Levels

❖ **Scale Scores (Main and LTT NAEP)**
  ✓ Mathematics scores can range from 0 to 500 (except grade 12 after 2000)
  ✓ Available by content strand
  ✓ Available by demographic characteristics (gender, race/ethnicity, rural vs. urban, etc.)

❖ **Achievement Levels (Main NAEP only)**
  ✓ Basic, Proficient, and Advanced
  ✓ Setting of achievement levels is controversial (proficient level is very ambitious)
Main NAEP Content Strands in Mathematics

- Number Properties, and Operations
- Measurement
- Geometry and Spatial Sense
- Data Analysis, Statistics, and Probability
- Algebra and Functions
National

- Scale score
- Year

△ All students

- Accommodations not permitted.
- Accommodations permitted.
National Main NAEP Performance, Grade 4


National

- All students

- Accommodations not permitted.
- Accommodations permitted.