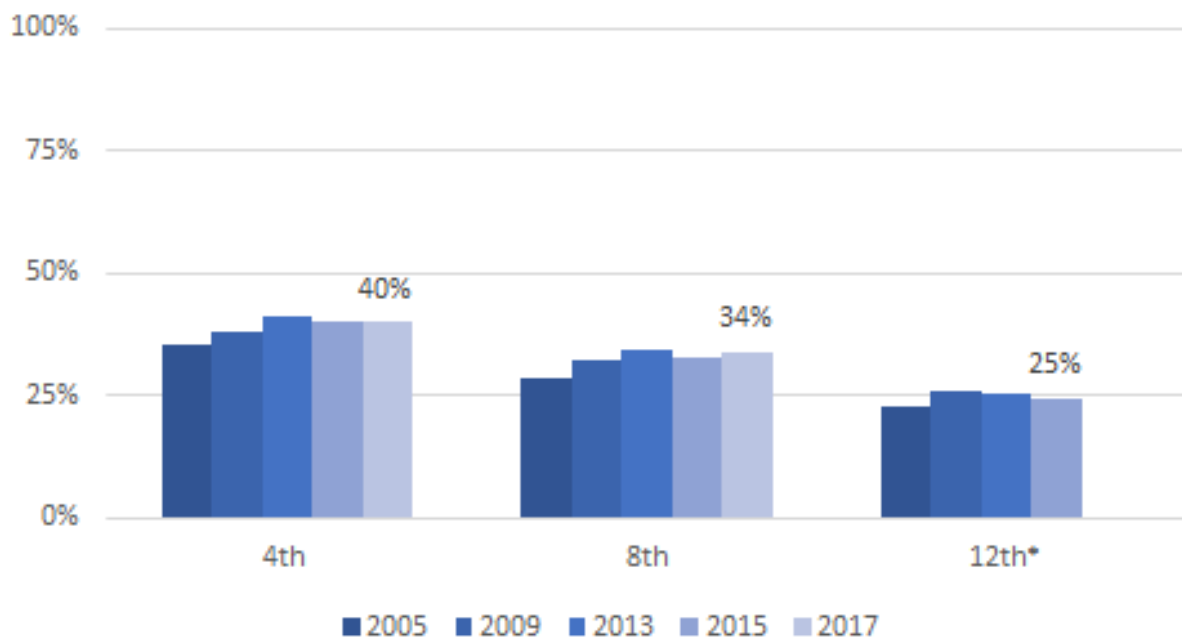


Bright Spots RFI: Background
Dramatic Improvements in Middle Years Math

Opportunity

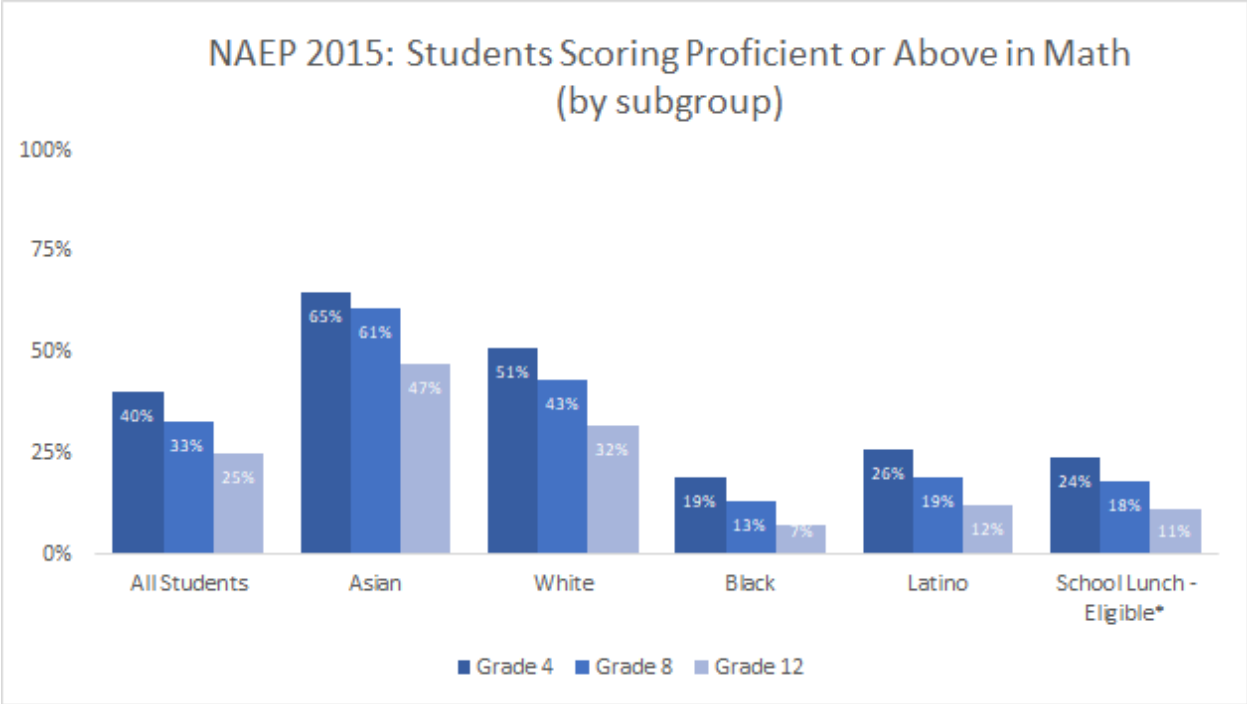
Mathematical proficiency is not only a prerequisite for students to meet current high school graduation requirements, it also is critical in unlocking opportunity for students to pursue a wide range of post-secondary pathways and STEM careers. Currently, performance in mathematics is far below standards for all students. The percentage of students meeting grade-level standards continues to decrease through high school, creating barriers to graduation and postsecondary pathways early in life.

NAEP Math Proficiency Trends: 2005 - 2017
(All Students)



* 2017 12th Grade NAEP scores not yet available

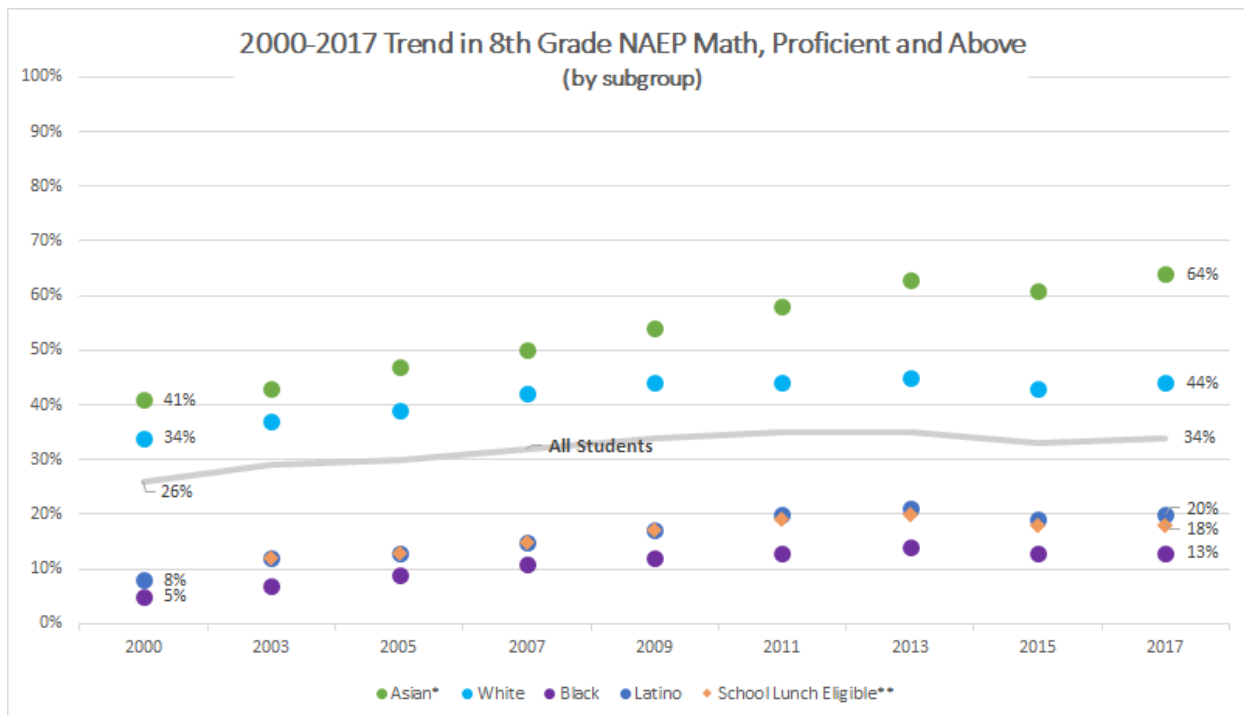
A deeper look at 2015 NAEP performance in mathematics reveals math performance varies widely for many student demographic groups in 4th, 8th, and 12th grades.



* This student subgroup is reported as "Eligibility for National School Lunch Program (NSLP)", abbreviated for space

Source: <https://www.nationsreportcard.gov/>

Many worthy efforts are underway to improve the teaching and learning of mathematics, through higher standards, well-designed curricula, teacher professional development and targeted student interventions. Since 2000, Asian students have shown significant improvements in math; other student subgroups have achieved smaller improvements over the same period. While incremental improvements have been achieved in many states and districts over the last 15 years, Black, Latino, and low-income students often remain significantly underserved by today's approaches. Student performance in all subgroups remains well below NAEP proficiency standards by the middle grades.



* 2011-2017, this student subgroup as reported as Asian. 2000-2009, this student subgroup is reported as Asian/Pacific Islander.

** This student subgroup is reported as "Eligibility for National School Lunch Program (NSLP)", abbreviated for space. Data unavailable in 2000.

Source: https://www.nationsreportcard.gov/reading_math_2015/#mathematics/acI?grade=8

We recognize we are leading with data that shows the need to better support Black, Latino, and low-income students in math. It is important to state a more complete story—not all Black, Latino, and low-income students are struggling academically. We recommend reading [The Counter Narrative Full Report](#) for more details.

Through this RFI, we seek to identify and understand existing “bright spots,” positive outlier programs, practices, instructional models, platforms or tools that are demonstrating significant improvement in the motivation, engagement, learning growth, and/or overall proficiency rates in mathematics with Black, Latino, and low-income students. We hypothesize that these bright spots may be found in community-based or after-school programs, summer programs, tutoring programs, within school systems or charter management organizations, in groups of schools, or by the developers of math products, professional development services, and teacher preparation services. For the purposes of this RFI we are looking to both understand the latest innovations and discover opportunities to further improve these approaches.

We are interested in hearing about existing approaches that may include: targeted student interventions, teacher professional development solutions, non-cognitive interventions (i.e. learning environments that develop students’ learning mindsets, motivation, identity, sense of belonging, and relevancy of math), diagnostic approaches, rapid remediation approaches, community-developed approaches, and/or approaches that include: tech-enabled personalization, new learning modalities (i.e. virtual reality and augmented reality), artificial intelligence, and/or learning science. We are open to other areas or approaches we may not

have listed, if you have already demonstrated success with Black, Latino, and/or low-income students in math. We look forward to hearing additional ideas as part of your submission.

We hypothesize a number of areas of research and development are needed to further validate and improve existing breakthrough approaches, through co-constructed R&D with developers, providers, educators, students, researchers, and communities. This RFI is a first step to identifying a set of potential partners from a range of backgrounds, operating in a range of contexts, who may be instrumental in driving specific research & development opportunities in the future.

Throughout this RFI, we define “middle years math” as the knowledge, skills and competencies defined by current commonly adopted mathematics standards for grades 3-9. We recognize that there is no common definition of “breakthrough” results that should qualify an approach as a positive outlier. The following are a set of proxy indicators that we are using to guide our exploration. We are interested in learning about instructional or professional development processes, practices, tools, services, models, programs, or products that achieve any of the high proficiency or high growth measures listed below for Black, Latino, and/or low-income students in math:

- Attainment of high levels of proficiency on grade level summative assessments for the majority of the target population
- Consistent year-on-year growth on benchmark/interim assessments, greater than 1.5 years of learning in a year (or equivalent in a summer program)
- Consistent year-on-year growth on summative assessments, greater than 1.5 years of learning in a year (or equivalent in a summer program)
- Measurable improvements in student engagement and attitudes towards math of at least 20% in one year
- Measurable improvements in teacher self-efficacy assessments and mindsets/beliefs about student learning in math

Thank you for your interest in responding to this RFI.

We are interested in learning about breakthrough approaches that meet three criteria. If you answer yes to *all* three questions, we want to hear from you. Please read our [Glossary](#) for how we define these criteria. Please check that you meet each criteria before proceeding. If you still have questions, please check our [FAQs](#) page or contact us at BrightSpotsMath@gatesfoundation.org.

1. Have you already developed and tested a breakthrough approach in math?
2. Does your approach serve at least one grade between grades 3-12 in math?
3. Has this breakthrough approach demonstrated significant progress towards math performance for a minimum of 50 or more Black, Latino, and/or low-income students?

Eligibility:

Responses are welcome from all capable sources including, but not limited to, after-school program operators, nonprofit organizations, for-profit companies, communities, researchers, universities, not-for-profit research institutions, summer school program operators, whole school models, and public and private companies.

Deadline: May 18th, 5:00 pm PDT

Click [here](#) to respond to the RFI.

Disclaimer:

Responses to this RFI are not part of a screening or application process and will not result in funding. The foundation seeks this information solely for information and planning purposes, which may result in future programs and/or Requests for Proposals (RFP). This RFI is an opportunity for practitioners, developers and field leaders to inform and shape the potential focus of the foundation's middle years math R&D program. Aggregated learnings from the RFI will be anonymized and shared with respondents and the field in the form of a brief written summary on our K-12 website. The foundation may also follow up with some respondents to feature their work in a case study series.