

# Addressing Early Math Achievement Declines



## Did You Know

Eleven states specify pre-service requirements or in-service professional development in math instruction for elementary educators in statute.



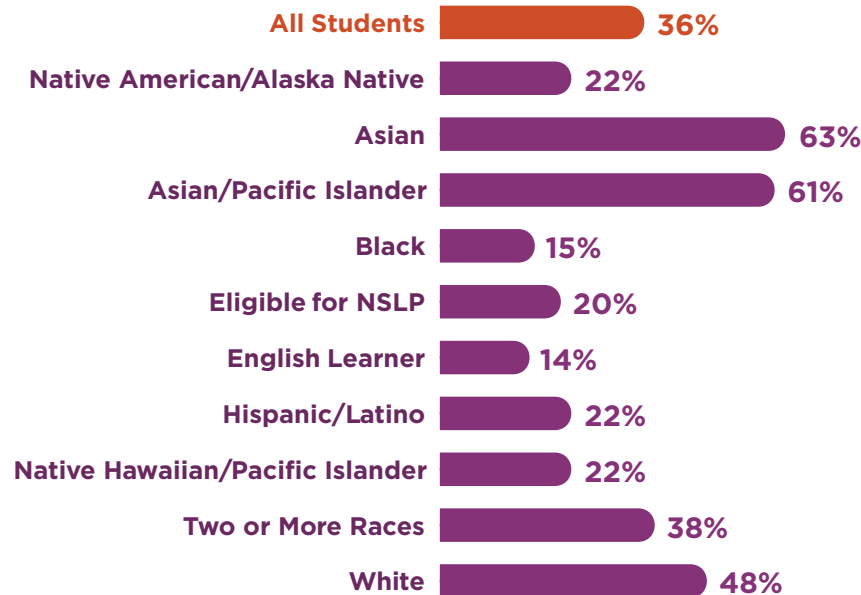
The 2022 NAEP fourth and eighth grade [math scores](#) represent the largest year-over-year decline since the test began in 1990 and is causing alarm for educators and policymakers across the country. In light of the COVID-19 pandemic's [disproportionate impacts](#) on math achievement in addition to [recent low scores](#) for 13-year-old students, a focus on preschool through elementary grades can have [big impacts](#) down the road.

## Pandemic Impacts on Young Learners

Factors such as family hardship, as well as lack of parental well-being and access to high-quality education and health care have had [compounding negative effects](#) on young learners' [math achievement](#), [social and emotional development](#) and [well-being](#).

## Equity Focus

Structural and systemic barriers, such as lack of access to high-quality pre-K through third grade education and early intervention, intensified during the pandemic. These barriers expanded [opportunity gaps](#) among historically underserved racial and socioeconomic groups and may be reflected in the most recent NAEP fourth grade math scores.



Percentage of Student Subgroups Who Scored Proficient on the Fourth Grade NAEP Math Assessment

## Pre-Pandemic International Trends

Even prior to the COVID-19 pandemic, math achievement lagged as is shown by international comparisons. In 2019, fourth graders from the United States [ranked 15th](#) in math among 64 participating education systems.

Between 2011 and 2019, the United States had the second largest [widening score gap](#) between students at the 10th and 90th percentiles among 47 participating countries.

# State Strategies to Support Early Math

While states have amped up their [K-3 literacy systems](#) and aligned with the science of reading, early math has gotten less policy attention. A handful of states have taken gradual steps to support math achievement for their early learners by focusing on assessment and intervention, curriculum and workforce supports.

## Assessment and Intervention



**West Virginia** [H.B. 3035](#) (2023) addresses both literacy and numeracy development. The state board of education is required to develop rules to establish an approved list of screeners and/or benchmark assessments in math for K-3 students. The bill also elevates a multi-tiered system of support for intervention in K-3.

## Curriculum



**Colorado** [H.B. 1231](#) (2023) requires the department of education to annually publish and update a list of evidence-informed curricula and assessment options for math every four years. The list will be developed based on consultation with math experts and educators. The bill also features several workforce supports, including a training specifically designed for elementary school educators.

## Workforce Supports



The **Alabama** Numeracy Act ([S.B. 171](#), 2022) created the Postsecondary Mathematics Task Force, in charge of developing guidelines for educator preparation of early childhood and elementary math instruction. For schools identified as performing low in math achievement, teachers providing math instruction in K-5 must participate in professional learning as specified by the state education agency.