



# GRADUATION FOR ALL

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## Math and the Class of '98 • [www.idra.org](http://www.idra.org) • December 2010

Think back to 1998. Bill Clinton was president. A dollar bought a gallon of gasoline. The winter Olympics were held in Nagano. Google Inc. was founded. And, that year, the kindergarten class of '98-'99 set out for its first day of school--a generation of children set to reach 8th grade in a new century.

In this, the 21st century, a good grounding in high school mathematics would increasingly correlate with graduation, going to college, and the chance of a better job. So NCES followed a large group of children from the kindergarten class of 1998 to see how they fared in mathematics by 8th grade. Here is a snapshot of what they found.

While overall 8th grade enrollment in Algebra I was on the rise, substantial access and equity gaps persisted:

- Fewer than one in five African American students (19 percent) in the kindergarten cohort were enrolled in algebra or a more advanced course in 8th grade.
- Eighth graders in households below poverty were about half as likely to be enrolled in algebra as youth in households at or above poverty (23 vs. 43 percent).
- Fewer 8th graders in the South were enrolled in algebra or higher compared to other regions in the country.

To see the [full set of findings](#).

Around the time that the kindergarteners of '98 -'99 became sophomores in high school, the National Mathematics Advisory Panel issued its [final report](#). The panel found that while children of the 21st century who complete Algebra II are twice as likely to graduate from college, mathematics education in this country "is broken and must be fixed." But the Mathematics Panel also asserted that positive results can be achieved with "consistent, wise, community-wide effort." This issue of Graduation for All is dedicated to promoting such efforts to improve mathematics access, teaching and learning for all students.

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## Schools and Communities in Action

**Grappling with Math is Good.** In partnership with teachers in Newark, researchers from Rutgers have found that students dramatically improve in mathematics not just when they "like it" but when they are challenged and supported. They suggest that engagement is too-often focused on "liking," rather than struggling with a complex subject with support--and discovering solutions. [To find out more about their work, visit Edutopia.](#)



Student engagement is also examined by Kristin Grayson and Veronica Betancourt (IDRA) in the "The Fourth-Grade Slump and Math Achievement." Their article points to a set of strategies teachers can use to help students engage in mathematics learning, including creating a more interactive classroom environment; integrating language and content, while addressing variations in language proficiency; building teacher-student relationships and holding high expectations; using sheltered instruction while improve language proficiency; and including active and interactive experiences that are structured, rigorous and accountable. [For the full article.](#)

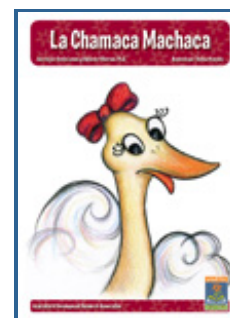
**Community Drive and the Value of Visible Measures** Two years ago Kentuckians took a bold step. Challenged by the Prichard Committee for Academic Excellence to become one of the nation's top 20 states in education by 2020, Kentucky set concrete goals for improving

teaching, learning and educational results. Now at the two-year mark, Kentucky is taking stock. And while they haven't moved the needle yet on eighth-grade mathematics or pre-school enrollment levels, the state *is* gaining ground in reading, fourth-grade mathematics and high school AP credit. And Kentucky has simultaneously made progress on teacher salaries, and college affordability. A key to Kentucky's approach is that that the state set clear and visible goals and engaged wide-spread support. To [learn more about Top 20 by 2020](#) or to [see the full two-year update](#).

**STEM in your State.** What is the status of science, technology, engineering and math (STEM) education in your state? To learn more, visit Change the Equation's STEM map. Here you can learn what percentage of students in your state graduate after four years and are ready for college-level mathematics—and how your state's 8th graders are doing on NAEP. [To visit the map](#).

## Toolbox

**Just in time for the holidays:** Beautifully illustrated bilingual (English/Spanish) big books and small readers for teaching literacy and numeracy. Visit [Semillitas de Aprendizaje to learn more and order a set](#).



**Click here for inspiration:**

- **Crayon Physics**, by Kloonigames was a grand prize winner from the Independent Games Festival. To [see a demo](#) of how it converts drawings into physical objects (cool, despite the music).
- **"21st Century Learner,"** a video crafted by a team of Michigan art teachers at an animation workshop, shared a top prize in the Partnership for 21st Century Skills' video contest. [To see their entry](#). While you're there, you can [learn more about how arts curricula can integrate mathematics skills](#).
- See **"Science Career Ladder,"** a video by Change the Equation to learn about [how youth are leading conversations on science at the NY Hall of Science](#).

**Dynamic classrooms.** How can your school improve classroom environments for teaching and learning mathematics? *Listen in!* to this IDRA Classnotes podcast interview with Paula Johnson, M.A. An IDRA education associate and former high school math department coordinator, Ms. Johnson [describes how instructional strategies and use of technology can help students develop critical thinking skills while learning math content](#).

[To learn more about IDRA's MathSmart model](#).

## Youth Voices

*"There's a little exchange of knowledge going on between me and my tutees. I teach them to excel in reading, grammar, science, and occasionally math and science. In exchange, unknowingly, they teach me valuable life lessons found only in a child's heart."* - Mary A. Vidaurri, winner, middle school second place, Coca-Cola Valued Youth Program - National Essay Contest. [For the full essay](#).

[To learn more about the Coca-Cola Valued Youth Program](#)

The [Intercultural Development Research Association](#) is an independent, private non-profit organization whose mission is to create schools that work for all children.

**Let us hear from you!** Have a story of school-community partnership that's raising graduation rates? We welcome your comments, questions and suggestions at [gradforall@idra.org](mailto:gradforall@idra.org). Forward to a Friend! Feel free to [share Grad4All](#) with anyone who shares your passion for every student's success.

Thanks for reading!

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