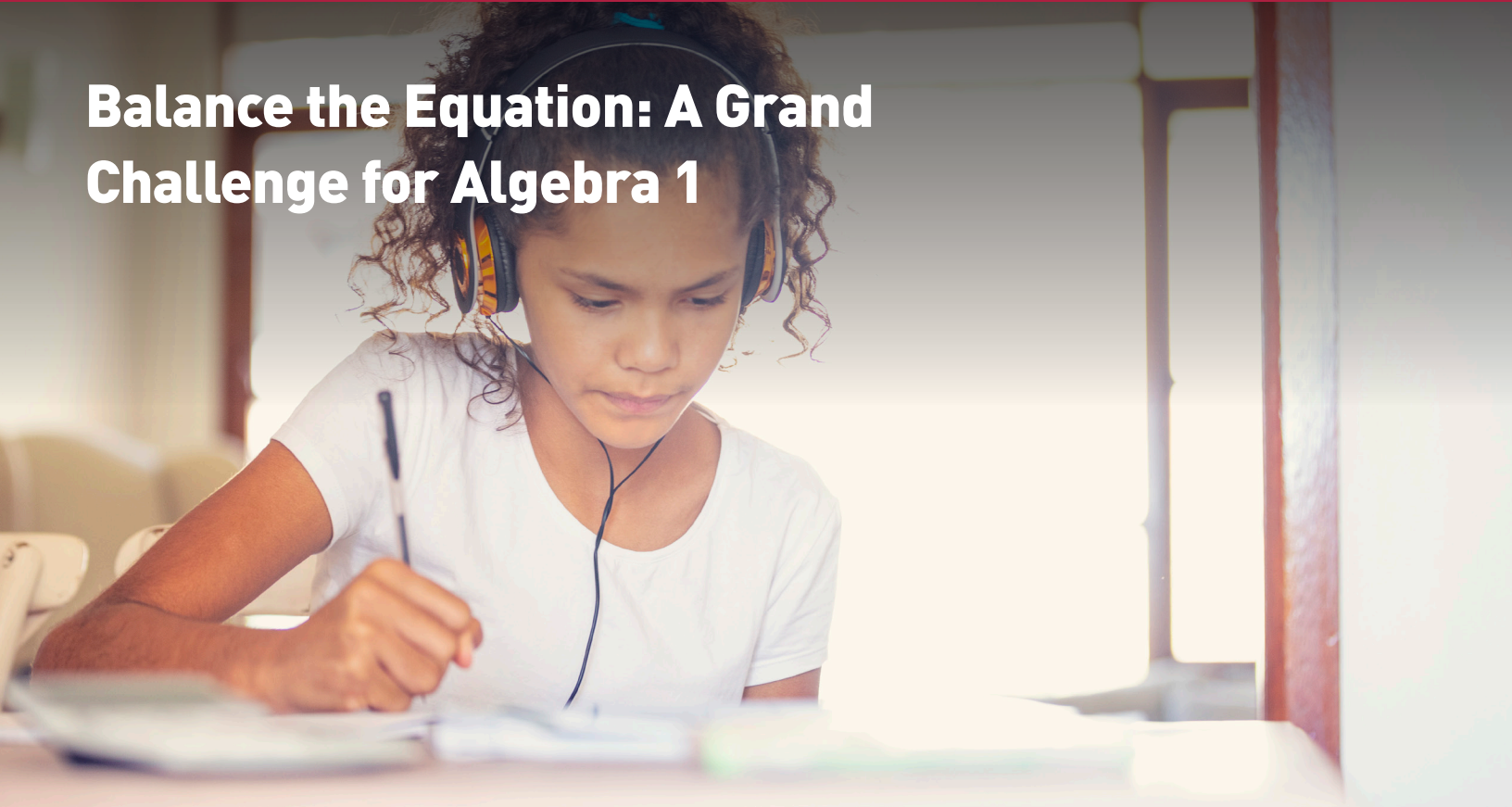


Balance the Equation: A Grand Challenge for Algebra 1



OVERVIEW

Algebra 1 is one of the most important on-track indicators of students' future success. For students who do not complete Algebra 1, their chances of graduating from high school are one in five. Black and Latino students, students who speak a language other than English, and students experiencing poverty in the United States are particularly affected by this, and the way our current systems are structured puts these students at a disadvantage in pursuing high-paying, in-demand careers. The system, as it is designed, discredits these students' lived experiences and it's time to make a change.

As it currently stands, Algebra 1 acts as a gatekeeper—rather than gateway—to future success. The Bill & Melinda Gates Foundation is seeking to work with partners to help us radically transform the experience of mathematics instruction by centering student identity and assets, and teachers' needs, in the design of visionary new solutions. For nearly two decades, the foundation has used Grand Challenges to address and solve key global health and development problems by seeking out and engaging the

world's brightest minds through an open and transparent process focused on the best ideas most likely to make an impact. We are launching our first-ever Grand Challenge focused on education in the United States, centered around the idea of making Algebra 1 a gateway, as one important effort to balance this uneven equation.

With the onset of COVID-19, students are facing an increasingly unpredictable and complicated world, and are even more likely to experience math classrooms that aren't designed to recognize and harness their strengths. Now is the right time to use the foundation's best asset for innovation to launch **Balance the Equation: A Grand Challenge for Algebra 1**.

This Grand Challenge is looking ultimately to identify up to 10 grantees who will each receive up to \$1M over two years to design solutions to make Algebra 1 more accessible, relevant, and collaborative for these priority students.

WHY ALGEBRA 1:

The purpose of this Grand Challenge is to radically transform and rethink the traditional math classroom to better support students who have been historically marginalized in math, including Black and Latino students, students who speak a language other than English, and students experiencing poverty in the United States - the “priority students” for Balance the Equation.

Algebra 1 has historically been a critical milestone in achievement for middle and high school students. However, for far too long, a mix of systemic barriers, district decisions, and traditional structures that rarely center equity in their design has made Algebra 1 a gatekeeper rather than a gateway to success, especially for priority students.

We’re looking to the world’s brightest minds to help us change that dynamic by dramatically changing the Algebra 1 experience. We can enhance students’ ability to support critical thinking, abstract reasoning skills, creativity through problem solving, and organizing and analyzing patterns in ways that leverage student agency to understand and critique the world around us through math. And we can challenge systemic barriers that for far too long have failed to appreciate and accelerate students’ inherent curiosity and brilliance.

PRIORITIZING STUDENT IDENTITY AND EXPERIENCE:

In recognition of its development by Middle Eastern and North African mathematicians, the word algebra is rooted in Arabic, *الجبر*, al-jabr lit, meaning “the restoring of broken parts.” Somewhere along the trajectory of this novel idea, into its requirement in American middle and high schools, the promise of this restoration is not yet fulfilled. With Balance the Equation, we’re getting to the root of this failure, looking to hear about solutions that will stack Algebra 1 education in favor of the unique gifts and boundless capabilities of Black and Latino students, as well as students experiencing poverty.

In the design of Balance the Equation, we began by hearing from priority students and their teachers to understand concretely the realities of today’s middle and high school math classes. Students understand clearly what math can do for them — and bring underappreciated assets to Algebra 1:

Being Goal-Oriented:

**“If you do well in math
you’ll do well in your career.”**

-10th grade English Learner who
wants to be an accountant

Building Their Own Support Teams:

**“My uncle! He’s one of the best
people I know who’s good at math...
My friends. Usually if we all have
a problem with the same math
problem, we’ll call each other.”**

-8th grader when describing the important
relationships she brings as a mathematician

Having a Strong Sense of Self:

**”Math is my best and favorite
subject because of my 3rd and 6th
grade teachers... My mom was living
on the streets with my little sister.
And my plan since I was 11, once
I get a job/place, is to take care of her.”**

-9th grader with a strong sense of self and
clear future ambitions



FUNDING OPPORTUNITY

Balance the Equation has five areas of focus, derived through primary research with students, teachers, and academic experts across the nation. These areas have the biggest opportunity for altering the traditional classroom experience for priority students in order to achieve the desired outcomes. Specifically, these areas include:

- Building out support systems
- Improving relevance of algebra content
- Elevating understanding of mathematical language
- Empowering and strengthening teacher practices
- Developing new or better feedback mechanisms

We are seeking proposals in response to **Balance the Equation** that think creatively and prioritize student identity and experience, including:

- Expanding daily practices for productive mathematical discussions to build their math identity and reiterate math's real-life connection in the evolving "classroom environment" (physically or virtually; synchronous or asynchronous).

- Incorporating tasks and/or lessons that empower them and/or reflect students' culture and community, or serve to explore issues of humanity and social justice.
- Altering the focus of mathematical aptitude from "easily, quickly, and independently arriving at a correct answer" oriented around the individual to more thoughtful, iterative approaches that promote multi-person processes and interactions.
- Adding assessment approaches that empower and humanize students and leverage more nuanced forms of data.
- Enhancing teacher professional development so educators are set up to meet the unique needs of each student, reflect upon their own biases, and build relationships that allow students to feel supported.

The Grand Challenge will launch:

5:00AM Pacific Time, October 7, 2020

Applications will be accepted until:

Noon Pacific Time, November 6, 2020

For more information, visit:

<http://k12education.gatesfoundation.org/balance-the-equation/>

For questions, please email:

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