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from the President's Pen

Picture Every Student Loving Math and Science

Three movies amplify the main point of this issue. The first is *Stand and Deliver*, the story of how teacher Jaime Escalante helped youth in East Los Angeles master calculus and achieve high scores on the AP Calculus exam—despite skeptics who made accusations of cheating. The second is *October Sky*, about how Homer Hickam in rural West Virginia, against all odds, does not become a coal miner like his schoolmates but instead pursues a love of rocketry all the way to a career at NASA. *Hidden Figures* illustrates the struggle of three Black women in the segregated, male-dominated math and science world of America's nascent space program.

Every student should be able to see themselves in the students portrayed in these movies. There is no math or science gene that only some people have. And again in all caps: EVERYONE CAN BE GOOD AT MATH AND SCIENCE. Just as when a student is struggling to master an instrument or a foreign language—which everyone is also capable of—we must believe in them and cultivate their desire to succeed (Escalante calls it *ganas*).

In each film, teachers play an essential role. The best ones find ways to help students master needed knowledge and skills, recognizing that different approaches to problem solving resonate with different students and are totally acceptable. The best teachers never let students believe they cannot succeed. They reveal these subjects as elegant, beautiful, and immensely satisfying—and thus something students can love.

Because math and science permeate daily existence, we can teach these subjects in ways that are relevant to students' lives. When students see relevance, they become engaged, and when engaged, their desire to succeed increases. Yet without a solid command

of mathematical and scientific concepts, students are walled off from many of life's best opportunities and experiences.

I see great progress across the country in reading and literacy. It's time to do similar good work in math and science. Here are key ideas to reinforce:

- Believe that every student can succeed in math and science. Every thought we think and word we speak should echo this belief.
- Help students form their math and science identity. What math and science concepts intersect with their daily lives and their aspirations?
- Make math and science instruction relevant to students. Math and science are everywhere!
- Ensure that parents and communities reinforce the belief that students can excel in math and science.
- Highlight how every career—particularly emerging, high-paying ones—leverage math and science skills and thinking.
- Ensure that teachers, schools, and districts use high-quality curriculum, proven instructional approaches, personalization, relevancy, and meaningful tutoring and that they create a culture where students believe they can succeed.

I have fond memories from my youth of excellent math teachers (Miss Morasco, Dr. Lattimer) and science teachers (Mr. Corea, Ms. Potts, Mr. Porter). They made math and science come alive and nurtured my love for exploring them. Every student should have this kind of instruction and emerge with knowledge, skills, and confidence in their math and science abilities. Let's make it happen! ■