

# COUNT~~≠~~D OUT

## WE ARE MATHEMATICIANS

Reimagining Math in the Classroom

# Reimagin=Math

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Many Americans experience "math trauma": the persistent or even lifelong fear or avoidance of math. Math trauma can occur when a child is shamed for making a math mistake, perceives his or herself as "failing" at a math assignment or test, or is subjected to high-stakes math assessments (like timed tests) that place inordinate value on speed and accuracy.

The good news? Math trauma can be prevented. Helping every student to self-identify as a mathematician, and to see math as a universal language for understanding everyday life, can combat a deep-seated cultural idea that math is scary, competitive, and inaccessible.

Use the prompts below to guide your classroom in a conversation about the beauty and power of math--and the mathematical ability that resides within all of us. These conversations are best when they are cumulative, so consider devoting 10 minutes to each prompt over two school weeks. Over time, you'll expand your students' ideas of what math is--and who can do it.

1. As a group, list ten everyday problems you could understand or explain with the math you know now. Think about problems like designing a school bus route, fundraising for a class trip, figuring out how much money you'd need to fill your parents' car with gas, or budgeting a pizza party for your class.
2. As a group, list ten non-STEM careers that rely on math every day. For example, we may not at first imagine a baker needing math skills, but think about the need to order supplies, time recipes, and budget for employees, not to mention all that measuring! Who else is a mathematician in the guise of another job?
3. As a group, name ten everyday processes or technologies that require an "invisible layer" of math we can't immediately see. Think about things like public transit schedules, YouTube or Netflix recommendations, or radar speed signs. What else relies on math to work?
4. Think about a question you're interested in, from why sunsets are red to how remote car starters work. Could this question be explained with the "language of math"? Why? Extension: choose one of these questions, and tackle it over the course of several weeks.
5. Think of a problem in everyday life, such as running out of hot water when too many people in your family take a shower in a row, or scheduling recess so that everyone in school gets a chance to go outside without overcrowding. How could you use math to solve the problem? Do you think this solution has been invented yet? Extension: pick a problem at your school and solve it, using math, over the course of several weeks.

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## Math Myths Reimagined

In *COUNTED OUT*, we learn that many of us have rigid, fixed ideas about what math is, and who can do it.

Make copies of the following page and distribute to groups of 2-3 students. Instruct them to read the below statements from the film. Ask them to check the "math myth" box if the statement is a myth. If it is, now ask them to reimagine the mythical statements to reflect the facts: that math is everywhere, and that anyone can do it.

Instruct students to write their "reimagined" version in the column marked "Math Reimagined."

# Math Myths Reimagined

		MATH MYTH	MATH REIMAGINED
1	You're just not a math person.	<input type="checkbox"/>	
2	Every single operation of math is formalizing and capturing the deep structure of something you already do.	<input type="checkbox"/>	
3	Math isn't for you.	<input type="checkbox"/>	
4	Math is the music of reason.	<input type="checkbox"/>	
5	Math is a totally separate mode of cognition.	<input type="checkbox"/>	
6	I don't think there are people out there who have never done math.	<input type="checkbox"/>	
7	Math is memorization.	<input type="checkbox"/>	
8	Math is useful in science, engineering, finance and accounting; if you're not going into those fields, then you don't need to know math.	<input type="checkbox"/>	
9	Everyone is capable of mathematical thinking.	<input type="checkbox"/>	
10	Math [gives] me a voice.	<input type="checkbox"/>	