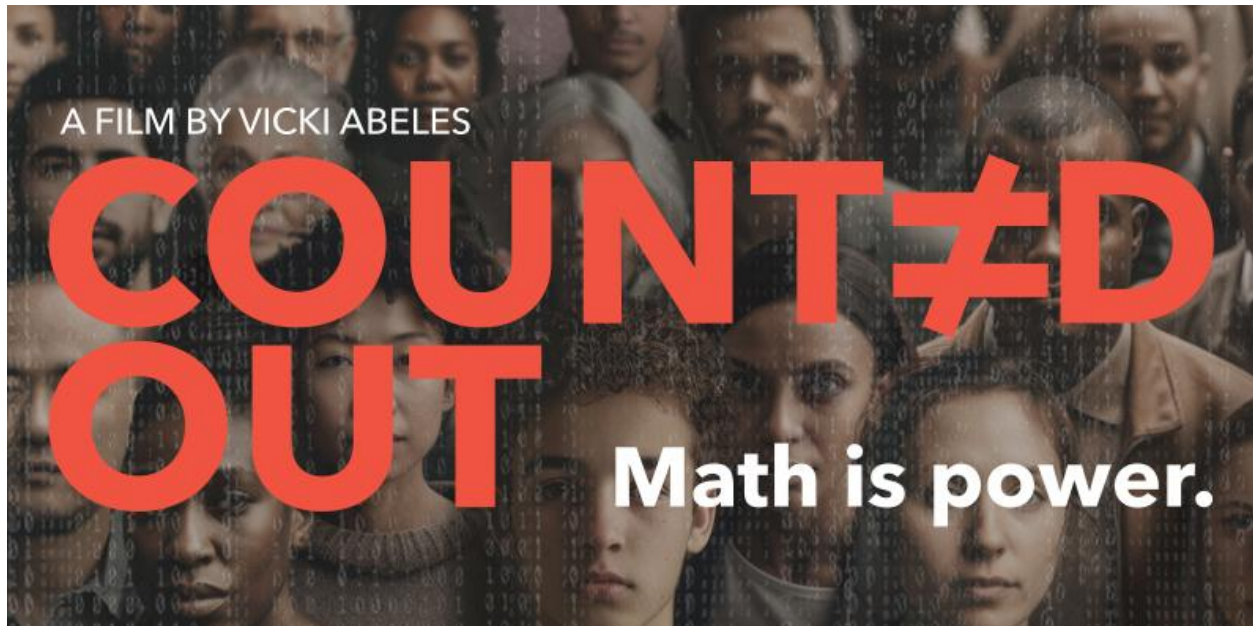


REEL LINK FILMS presents a film by Vicki Abeles

# COUNTED OUT



“Our inability, as citizens, to speak the language that is math is truly risky to us as a society.”

—Julia Angwin, editor-in-chief of *The Markup*

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## LOGLINE

In the 21st century, our world is dominated by technology, data, and algorithms, yet we maintain the persistent myth that not everyone is a “math person.” Can changing our minds about math revolutionize who has power—and who is counted out?

## SYNOPSIS

*Counted Out* investigates the biggest crises of our time—political polarization, racial and economic inequity, global pandemic and climate change—through an unexpected lens: math.

In our current information economy, math is everywhere. The people we date, the news we see, the influence of our votes, the candidates who win elections, the education we have access to, the jobs we get—all of it is underwritten by an invisible layer of math that few of us understand, or even notice. But whether we know it or not, our numeric literacy—whether we can speak the language of math, and how well—is a critical determinant of social and economic power.

Through a mosaic of personal stories, expert interviews, and scenes of math transformation in action, *Counted Out* shows what’s at risk if we keep the status quo. Do we want an America in which most of us don’t consider ourselves “math people”? Where math proficiency goes down as students grow up? Or do we want a country where anyone can understand the math that undergirds our society—and can help shape it?

*The film is dedicated to Bob Moses, the civil rights leader and MacArthur genius who saw math access as the civil rights issue of our time, and whose work we follow in some of the last filmed interviews of his life.*

## TRAILER

[counted\\_out\\_trailer \(720p\).mp4](#)

## DIRECTOR'S STATEMENT

Two of my previous films are stories rooted in education, and this one started out that way. I began with a curiosity about how math is taught in the classroom—why so many students fear it, and why math proficiency in America lags so far behind other countries, even at a time when math is central to our technological society.

As production began, however, I learned that a film about the way math is taught—and how we learn it—ends up being a film about so much more than classrooms. It's about who is encouraged and supported on the journey to math literacy, and who drops out of the math pipeline. It's about why some of us learn early to distance ourselves from math fields, unwittingly closing off doors of opportunity to hundreds of exciting careers in science, engineering, technology, medicine, and media. It's about how math forms the scaffolding that supports our institutions. It's about math's critical role in (literally) holding up our infrastructure and cities, and about its impact on our electoral process, news ecosystem, dating sites, social media feeds, housing market, and prisons.

Ultimately it's a film that poses a question fundamental to democracy: if we can't understand a system that governs us, how much power do we actually have?

In my quest to understand math's critical role in our lives, I uncovered a movement of scholars, activists, and educators who also see math as more than an academic subject. For them, math is a tool for understanding and harnessing the beauty, wonder, and possibility of the world we live in. And our lack of access to that tool is, in their view, the critical civil rights issue of our time.

In making the film, I was honored to meet the civil rights hero Bob Moses, one of the greatest inspirations in the ongoing fight to make education equitable. The film includes some of the last interviews of his life as he invites us inside the work of his groundbreaking Algebra Project. Moses advocated for shifting the power dynamics of learning, just as he'd done during his voter-registration work in the '60s. The results of his work have been transformative, and our film is dedicated to him.

In making *Counted Out*, I learned that we have a math crisis in America, but that it's a crisis whose solution is at our fingertips. As we capture the knowledge, organizing, and wherewithal of those who are advocating for widespread math literacy, we can unleash something else: the power of all of us to shape the world we're living in.

Vicki Abeles,  
Director, *Counted Out*  
Spring 2024

## FEATURED FILM SUBJECTS AND EXPERTS

**Rebecca Galicia** is a mother whose traumatic experience with math in school derailed her career ambitions and access to the economy. Now, she finally faces her math phobia at community college in hopes of charting a better future for herself and her family.

**Glenn Rodriguez** is a former prisoner whose parole was blocked by an unfair algorithm. He got his freedom by reverse-engineering the algorithm to reveal its flaws, and now supports parolees and advocates for criminal justice reform.

**Bob Moses** was a legendary civil rights activist and architect of the Mississippi Freedom Summer, and founder of the [Algebra Project](#). Achievement of math literacy was “the new civil right” for Bob, and he spent the last three decades of his life leading the fight to attain it. *Counted Out* includes some of the final interviews with Bob before his passing in 2021, and the film is dedicated to him.

**Karim Ani** is a former middle school teacher and math coach and the founder of [Citizen Math](#), an online math resource that supplements math lessons for grades 6-12. Ani’s goal is to provoke questions, spark conversations, and activate young minds.

[Julia Angwin](#) is a Pulitzer-winning investigative journalist, author, and entrepreneur, formerly of The Wall Street Journal and ProPublica. She co-founded and was editor-in-chief of [The Markup](#), a nonprofit newsroom that investigates the impact of technology on society, and recently founded [Proof](#), a nonprofit news studio investigating the most important questions of our time.

[Roger Antonsen](#) is a logician, mathematician, computer scientist, author, public speaker, science communicator, and artist. He is an Associate Professor in the Department of Informatics at the University of Oslo, and a visiting scholar at UC Berkeley, California, ICERM, and Brown University.

[Ben Blum-Smith](#) is the Mathematician-in-Residence at the Bridge to Enter Advanced Mathematics, part-time faculty at The New School, and a Visiting Academic at the NYU Center for Data Science (CDS). He is a founding organizer of the [Math and Democracy Seminar](#) at the CDS, which researches the relationship between math and the structure of democratic society, as discussed in his [TED talk](#).

[Jo Boaler](#) is a professor of mathematics education at Stanford University, and the faculty director of [youcubed](#). She authored [Experiencing School Mathematics](#), which won the “Outstanding Book of the Year” award for education in Britain.

[Erika Bullock](#) is an Assistant Professor of Mathematics Education and Curriculum Studies at the University of Wisconsin–Madison. Her research agenda consists of two key segments: conceptualizing urban mathematics education and historicizing issues in mathematics education.

[Eugenia Cheng](#) is a mathematician, musician, educator, author, public speaker, and early pioneer of math on YouTube. She has authored several books, including [How to Bake Pi](#), [Beyond Infinity](#) and [x + y : A Mathematician's Manifesto for Rethinking Gender](#). Her popular [TED Talk](#) explores how abstract math can be used to understand inequality.

**Keith Devlin** is a mathematician and popular science writer who directed the Stanford Mathematics Outreach Project and co-founded the university's [H-STAR institute](#) and [Stanford mediaX](#). He is a World Economic Forum Fellow, and for many years was NPR's "Math Guy."

[Jordan Ellenberg](#) is a Professor of Mathematics at the University of Wisconsin–Madison. He is also a Discovery Fellow at the Wisconsin Institute for Discovery, where he is part of the Machine Learning group and the Institute for Foundations of Data Science. He is the author of [Shape](#) and [How Not to Be Wrong](#).

**Daniel Finkel** is a mathematician who founded [Math for Love](#), where he develops math games and curriculum, trains teachers, and produces professional learning materials. His goal is to give everyone the chance to fall in love with mathematics, and his beloved [TED talk](#) is a guide for sharing the beauty and playfulness of math with children.

[Maisie Gholson](#) is a former high school math teacher, and now serves as an Assistant Professor at the University of Michigan School of Education. Within a Black feminist framework, Gholson's research studies identities and relational ties to mathematics, peers, and teachers.

[Rochelle Gutierrez](#) is a Professor of Curriculum and Instruction at the University of Illinois at Urbana–Champaign College of Education. Her scholarship focuses on issues of identity and power in mathematics education, paying particular attention to how race, class, and language affect teaching and learning.

[Steve Levitt](#) is an American economist and co-author of the best-selling book [Freakonomics](#). He is currently the William B. Ogden Distinguished Service Professor of Economics at the University of Chicago.

[Dan Meyer](#) is a math educator and advocate for better math instruction who collaborates with educators worldwide and has been recognized as one of Tech & Learning's 30 Leaders of the Future. His much-viewed [TED Talk](#) explains why "Math Class Needs a Makeover." Currently, he serves as the Director of Research at [Amplify](#).

**Vanson Nguyen** is a Professor of Mathematics at the College of Alameda who specializes in social justice and community building.

**Emmanuel Schanzer** is the founder and co-director of [Bootstrap](#), a forum for teachers around the world to share and develop their math curriculum. His [TED talk](#) "Why Is Algebra So Hard?" illuminates how transforming math education can improve student outcomes.

[Alan Schoenfeld](#) is an Affiliated Professor of Mathematics at the University of California at Berkeley. He served as president of [AERA](#) and vice president of the National Academy of

Education, and he holds several awards given to a pure or applied mathematician for distinguished contributions to the mathematical education of K-16 students.

[Ismar Volić](#) is a Professor and Chair of Mathematics at Wellesley College, and the Director of the [Institute for Mathematics and Democracy](#). He's also the author of [Making Democracy Count: How Mathematics Improves Voting, Electoral Maps, and Representation](#).

[Talithia Williams](#) is an Associate Professor of Mathematics at Harvey Mudd College. She is known for making sophisticated numerical concepts understandable and relatable, illustrated in her popular [TED Talk](#) "Own Your Body's Data."

## FILM TEAM

**Vicki Abeles (Director and Producer)** is a filmmaker, parent, attorney, and passionate education advocate. She directed the award-winning documentaries *Race to Nowhere* and *Beyond Measure* and brought the films to millions of viewers around the globe by focusing on outreach and social impact. She is the author of the NYT best-selling book *Beyond Measure: Rescuing an Overscheduled, Overtested, Underestimated Generation*. Additional film credits include Associate Producer on the Sundance favorite *Miss Representation* (2011) and Associate Producer on *Plastic Man: The Artful Life of Jerry Ross Barrish* (2014). Continuing to bring communities together around the power of stories, Vicki's work as an Impact Producer for *Chasing Childhood* and *High School 9-1-1*, along with hosting the national live-stream event, "State of the Kids: Uniting for Youth Mental Health," has built alliances across the world to empower kids to thrive.

**Amy Ferraris (Editor and Producer)** is a documentary film editor and producer whose latest feature, *Try Harder!*, premiered at Sundance in 2021 and aired on PBS's *Independent Lens*. Other notable editing credits include *Seeking Asian Female* and *The Grace Lee Project*, both of which premiered at SXSW. Ms. Ferraris's broadcast work has appeared on PBS, the Sundance Channel, the Discovery Networks, and A&E, among many others. She is also the producer / director of *The Perfect Cappuccino*, a documentary about coffee, consumerism, and being American.

**Lisa Fruchtman (Consulting Producer)** is an Academy Award-winning editor who has worked in both feature film and television. Among her many film projects are *Apocalypse Now*, *The Right Stuff*, *Children of a Lesser God*, *The Godfather Part III*, *The Doctor*, *My Best Friend's Wedding*, *Dance with Me*, and *The Woodsman*. For television, she has edited such HBO films as *Truman*, *Witness Protection*, *Point of Origin*, and *Normal*. Her awards include an OSCAR for *The Right Stuff*, Academy Award and BAFTA Nominations for Best Editing for both *Godfather Part III* and *Apocalypse Now*, and an Emmy Nomination and a Cable ACE Award for *Truman*. *Children of a Lesser God* was nominated for Best Picture. In addition, she produced and directed *Sweet Dreams*, a critically acclaimed documentary about Rwanda and has several projects in development as producer/co-producer. She has served as an Advisor at the

Sundance Feature Film Lab in Utah and at the eQuinox International Screenwriters Workshop in Europe.

**Nancy Blachman (Executive Producer)** created Google Guide in 2003, and in 2007 founded the Julia Robinson Mathematics Festival, which inspires students to explore the richness and beauty of mathematics in a cooperative environment. She is now chair of Gathering 4 Gardner and the UCB IEOR Advisory Board.

**Michael Chandler (Story and Consulting Editor and Producer)** is an Oscar-nominated filmmaker working in nonfiction and fiction film. He edited the feature films *Never Cry Wolf*, *Mishima*, and *Amadeus*, for which he was nominated for an Academy Award. He wrote and edited the documentaries *Freedom on My Mind* (Academy Award Nomination), *Waldo Salt: A Screenwriter's Journey* (Academy Award Nomination), *The Squires of San Quentin* (Academy Award Nomination), and *Yosemite: The Fate of Heaven* (Emmy Award), and was Consulting Editor on *The Most Dangerous Man in America: Daniel Ellsberg and the Pentagon Papers* (Academy Award Nomination). Michael's own films include *Compared to What: The Improbable Journey of Barney Frank* and *Forgotten Fires*. He is a member of the Motion Picture Academy and the Writer's Guild.

**Saul Simon Macwilliams (Composer)** is a composer for film and television known for *Beasts of the Southern Wild* (2012), *Chasing Coral* (2017), and *Gleason* (2016).

**Clare Major (Director of Photography)** is a cinematographer and documentary filmmaker who specializes in handheld observational camerawork. Recent cinematography credits include *Belly of the Beast* (HRW 2020), *Ahead of the Curve* (Frameline 2020), and *We Are the Radical Monarchs* (SXSW 2019). Based in Oakland, California, Clare is currently working on documentaries set in California, Mississippi, Italy, and Haiti.

**Mark Smith (Director of Photography)** is an award-winning cinematographer and film collaborator with roots in entertainment, documentary, indie cinema, and time lapse photography. Several of his works have received prestigious honors, including *Returning Mickey Stern*, winner of the Grand Jury Prize at the 2002 Rome Film Festival. He has also shot for major television networks and high-profile sporting events, including the Olympics.

## EXPERT QUOTES

“When you consider the issues that we as a society face, most of them are fundamentally mathematical.”

—*Karim Ani, founder of Citizen Math*

“If everything’s built on a layer of math, who gets to go into that layer and tweak it? It’s supposed to be all of us.”

—*Ben Blum Smith, Founder of the Math and Democracy Seminar*

“If you think about the 20th century, you needed to know enough math to function at the post office. But in the 21st century, we’re in a different ball game.”

—*Bob Moses, Civil Rights Leader*

“How is it that we can begin to use math to understand the world and to also change the world?”

—*Erika Bullock, Assistant Professor at the University of Wisconsin–Madison*

“Everyone is capable of mathematical thinking. It’s like an inheritance you get just for being human.”

—*Daniel Finkel, Founder of Math for Love*