



California
Girls in STEM
Collaborative

Friday June 18
12:00PM to 1:30PM PT

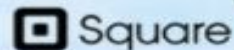
Making Together:

The Future of Girls in Design & Engineering



THE MAKER MOVEMENT

A TIMELINE OF KEY MODERN EVENTS



JAN 2005

First issue of MAKE magazine, a publication devoted to DIY projects, hits newsstands.

JUN 2005

Etsy launches, providing an online platform for artisans to sell their crafts.

Etsy

APR 2006

The Bay Area hosts the first Maker Faire, a public annual event celebrating the arts, crafts, engineering, science projects and the DIY community.

OCT 2006

The first TechShop opens in Menlo Park, California.



FEB 2009

Square, Inc., launches, providing crafters and artisans a vehicle to collect credit card payments directly from customers.

We are just getting started

APR 2009

MakerBot, one of the first desktop 3D printers, is available for sale.

APR 2009

Kickstarter is formed and entrepreneurs begin to raise capital via crowdfunding.

MAR 2011

South-by-Southwest (SXSW) celebrates the 25th year of covering musicians, artists, and tech junkies in Austin, Texas.

SEP 2012

The New York Times reports that the "Made in America" label is regaining popularity, with more consumers buying domestic, local goods they feel represent "old-school craftsmanship, even luxury."

MADE IN
USA

JAN 2013

The Maker Manifesto: Rules for Innovation in the New World of Crafters, Hackers, and Tinkers, written by TechShop CEO Mark Hatch, is published.



MAY 2013

President Obama announces the National Network for Manufacturing Innovation (NNMI), a collaboration between manufacturers and academia to problem-solve and help advance the manufacturing industry.



MAY 2014

The White House launches Mayors Maker Challenge to encourage support of Makers at the local level, and hosts the first-ever White House Maker Faire.

FEB 2015

Raspberry Pi, a computer the size of a credit card and as inexpensive as \$5, reached five million units in sales.



NATIONAL LEAGUE of CITIES



.....[Belonging].....

{Guides/Mentors}

//Empowerment//



Resources & Tools for All



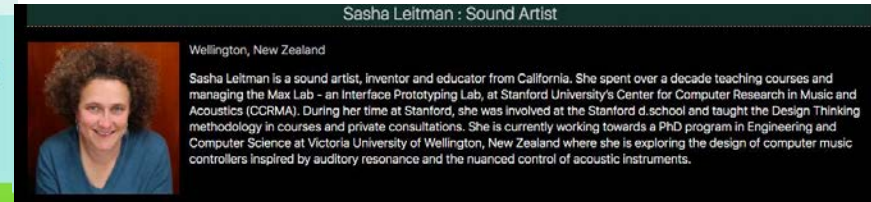
Reinvent The Future

Our mission is to reinvent the general perception of women in STEM fields while inspiring interest in STEM for young women worldwide. Reinvented Magazine aspires to break barriers and aid the movement to get more girls involved in STEM by creating the nation's first print magazine for women in STEM.

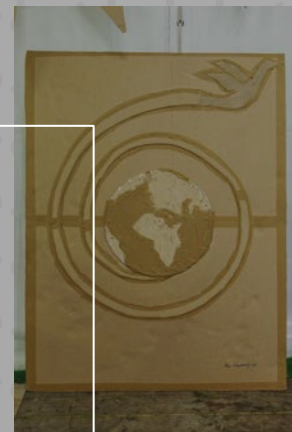
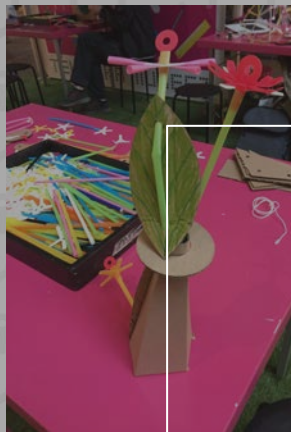
Creative Placemaking



MALKIYAH PRESCOTT
MUSICIAN AND ACTRESS
NEW YORK, USA



Interpreting Meaningful Making for STEM Fields



Top Row Image Reference from Left to Right: Mobile Maker Tour - Sweden, Student creating an alligator - Thailand, Cardboard projects in Wellpapp Wonderland - Sweden
Bottom Row Image Reference from Left to Right: Young makers sketching ideas - China, Building for the SDGs - Columbia, Group ideation - California, USA

Sharing Ideas & Mentorship

- ❖ Culture of listening
- ❖ An environment for everyone to share
- ❖ A space to help another



Top Image: Tangible sketching of ideas at a public primary school - Gothenburg, Sweden
Bottom Image Reference: Musical Lunar New Year Puppets at Children's Creativity Museum - San Francisco, California

Collaboration

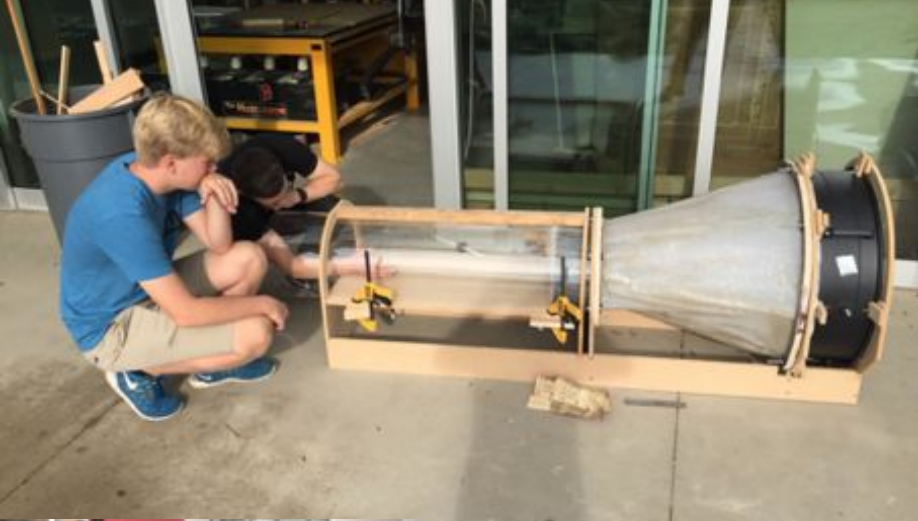
- ❖ Everyone expresses ideas, sayings differently
- ❖ Opportunities to listen
- ❖ Practice for resolving misunderstandings and learning



Communication for Inclusion

- ❖ Safety to speak
- ❖ Curating a resource library in different languages
- ❖ Also a curate a collection of media rich resources not reliant on a specific language or text
- ❖ Avoid assumptions







How Might We Design For Equity & Inclusion in School Makerspaces*?

* Makerspaces, engineering labs, innovation labs, design thinking studios, etc etc

- Required courses vs electives
- Affinity spaces for girls in STEM
- Learning tech for the sake of learning tech VS using tech for other purposes
- "Giving permission"

Who is being invited?

Who gets to "succeed"?

- Assessment practices
- Mentorship opportunities
- Celebrations and showcases

Who feels like they belong?

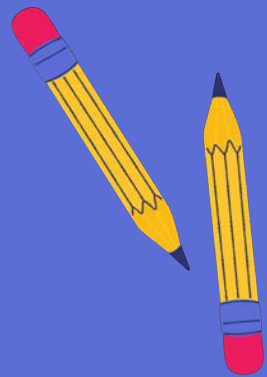
- Hiring & staffing
- Classroom culture & norms
- Relationships
- Curriculum design



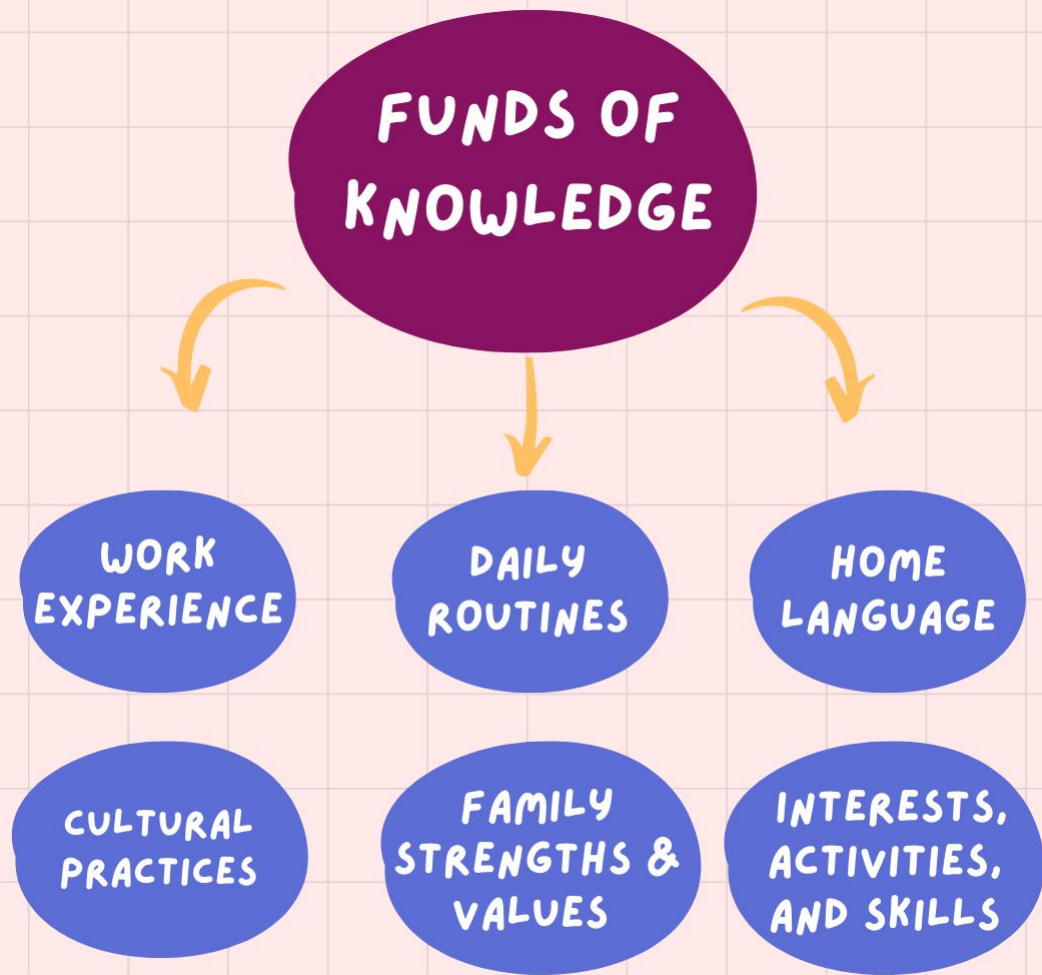
Let's redefine who gets to be called a “maker” and what is considered “making.”

At Maker Ed, we are committed to working past representation and towards deep systemic changes in educator practice, institutions and learning experiences for young people.

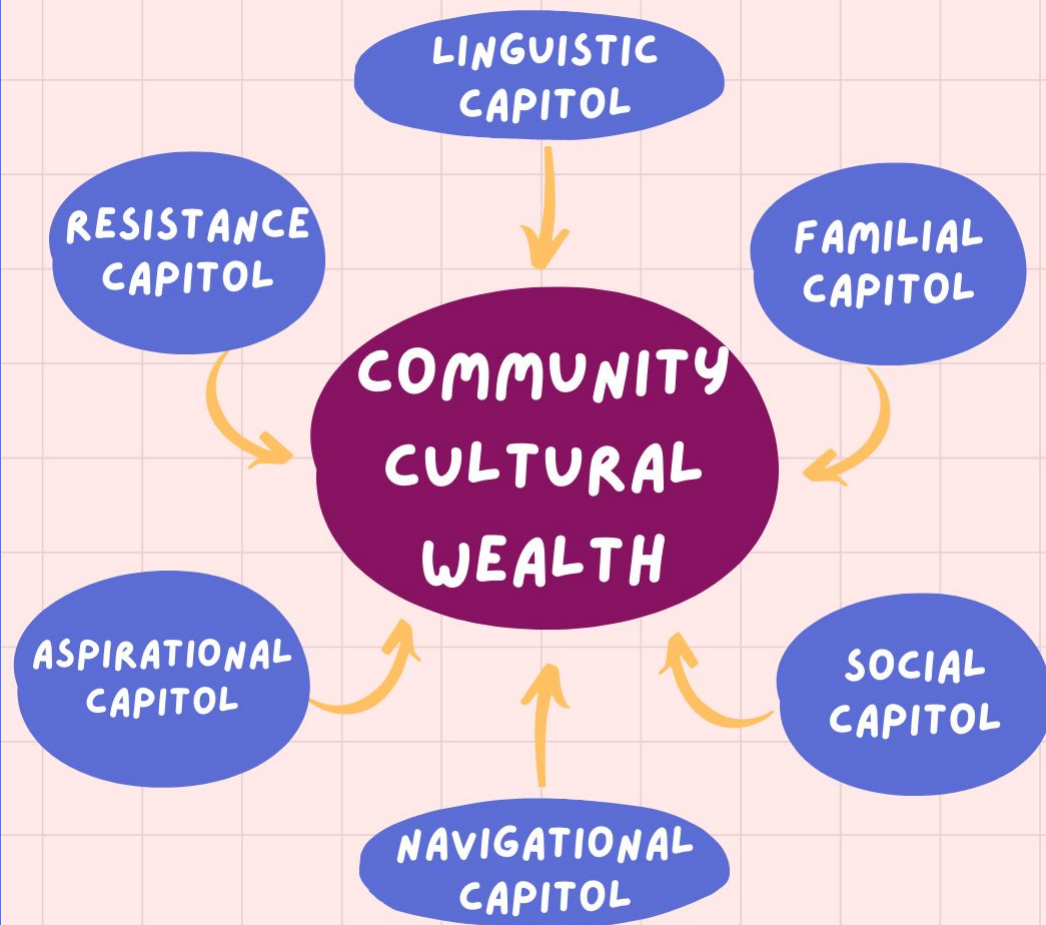
This requires authentic co-creation, relationship building, and collaboration WITH our community.



How are you
**CREATING A MORE AUTHENTIC
LEARNING ENVIRONMENT**
by incorporating ways that
STEM + making already
show up in your learners'
lives?



How are you
HONORING THE WEALTH
that your community brings to
the makerspace in order to
disrupt practices that oppress,
silence, and marginalize
learners?



How are you
SHIFTING THE CULTURE
of the makerspace while
honoring the identities and
lived experiences of
historically excluded
communities?



**IMPOSTER
SYNDROME**

**WHITE
SUPREMACY**

**SYSTEMIC
BIAS**

RACISM

**AN OPEN
DOOR IS NOT
ENOUGH**

WHO IS A MAKER?

Using learners' funds of knowledge to empower them to reclaim a narrowly-defined term



- *Much of the “who” is a part of the maker movement is also entangled with the “what” of the maker movement.*
- *What is making?*
- *When is something considered “making” vs. “surviving” vs. “existing” vs. “culture”?*
- *What does it mean to move from “open doors” to create a radically and intentionally inclusive community of practice?*

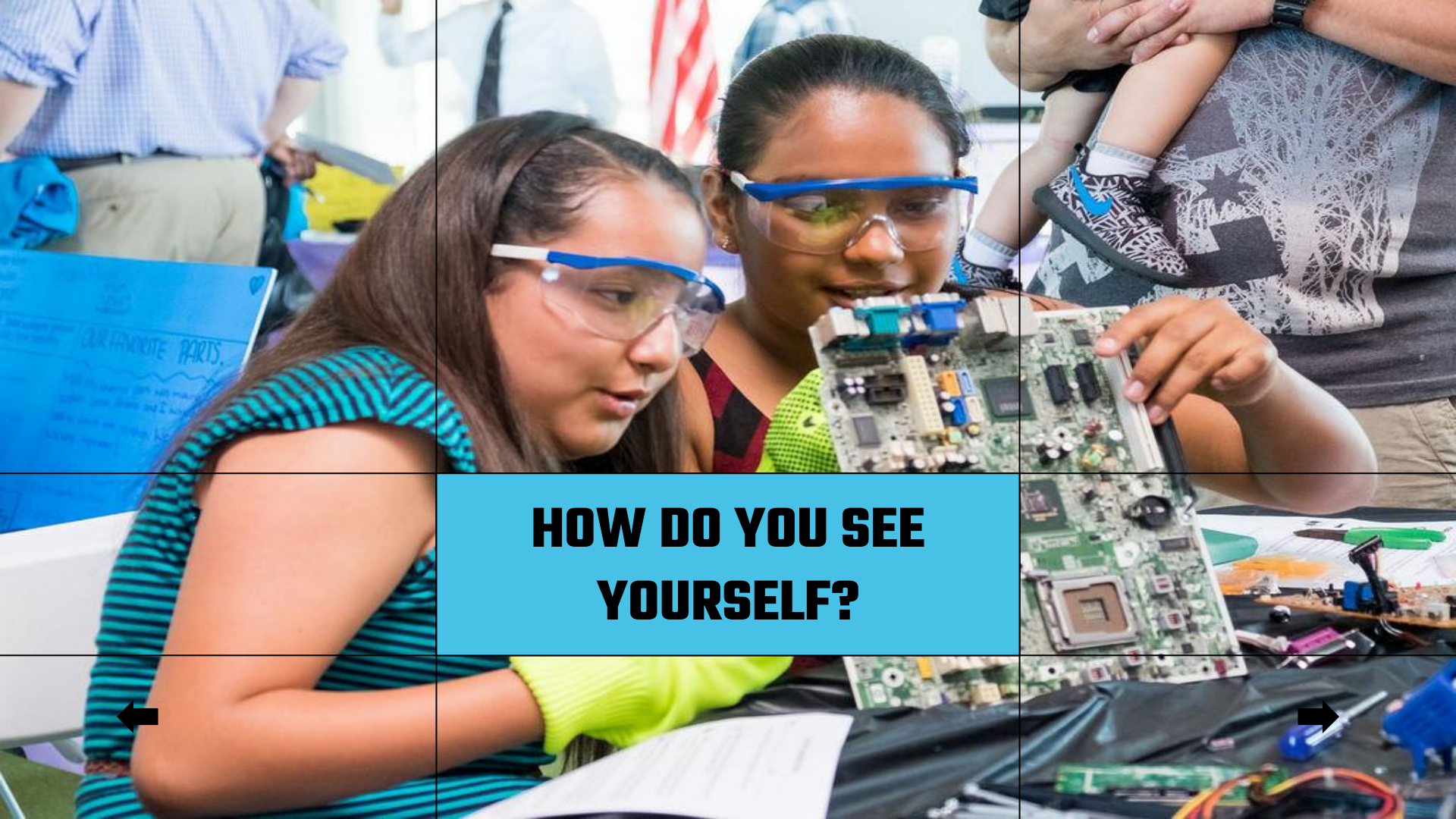
Kristin Bedford, “Samantha,” At It Again Car Club, Elysian Park, Los Angeles, CA (May 7, 2017). From “Cruise Night” (2021)

Nation of Makers' Core Principles

As a Nation of Makers, we believe we are stronger and more sustainable when...



- Everyone is welcome, including people of every age, ability, race, religion, ethnicity, sex, gender, sexual orientation, citizenship, veteran status, marital status, parental status, level of education, and socioeconomic class.
- Everyone within our movement, our community, and in our spaces is safe, supported, heard, encouraged, and respected.
- Everyone has access to the education and resources needed to make.
- Every maker respects the safety and wellbeing of the community.
- Our community chooses to engage in the ongoing process of making a more inclusive culture.



**HOW DO YOU SEE
YOURSELF?**