



# WHY OUR KIDS NEED STEM NOW!

LARCHMONT-MAMARONECK LOCAL SUMMIT

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# WHAT IS STEM?

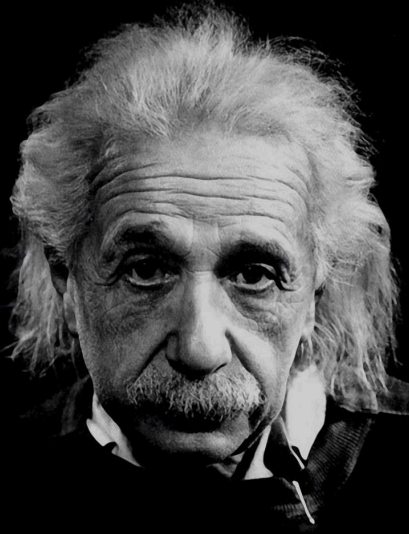
- By definition: Science, Technology, Engineering & Math
- Expanded definition: Add the “a” for ART & make it STE(a)M
- Not discrete: STE(a)M is the interface of learning across these disciplines
- Applied: using these skills to ask questions and find solutions
- Mindset: a way of thinking or a mindset towards using skills to solve real world problems
- Related conversations or “tag words”:
  - Making & Maker Spaces
  - Creative design
  - Prototyping & Fabrication Labs
  - Computer Science, Robotics, Coding, Gaming & App Development

# WHY IS STEM SO IMPORTANT?

- Curiosity
- Employability & Job Growth
- Social Equality

# CURIOSITY

“I am neither clever nor especially gifted. I am only very, very curious.”  
-Albert Einstein

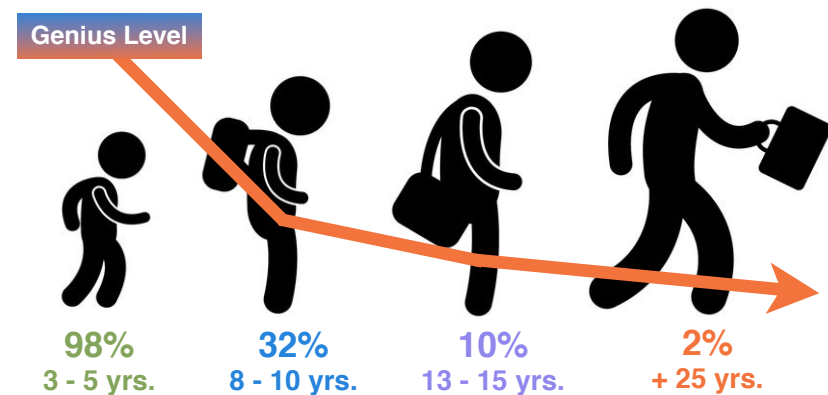


- STEM learning activates and invigorates our natural curiosity
- Validates cultural context of today's youth
- Makes learning relevant to real world scenarios

## CQ > IQ Spells Success

Future success depends on a person's creativity quotient (CQ) more than their intelligence quotient (IQ)

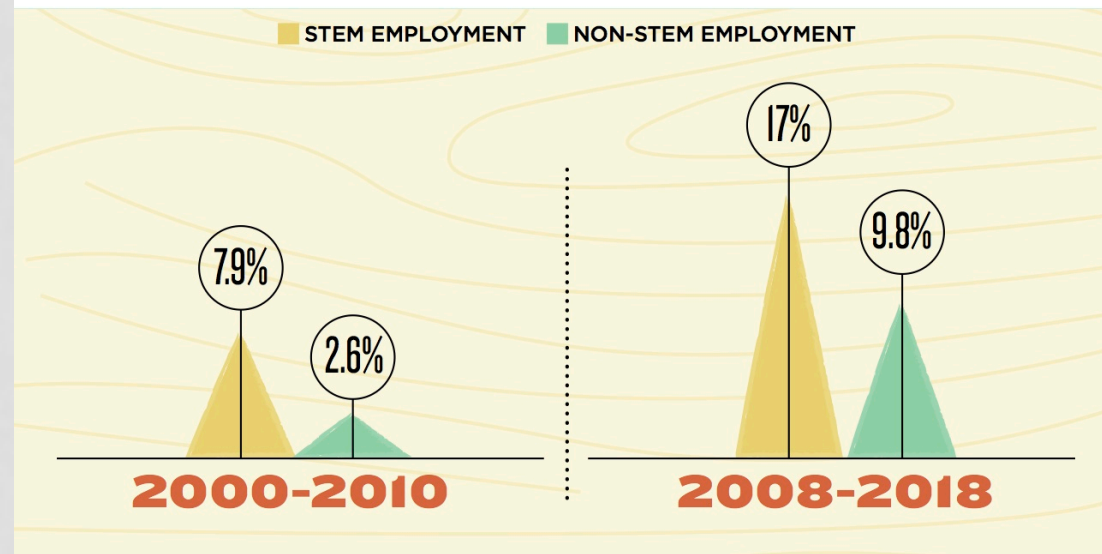
*Young children excel at CQ tasks like the paper clip challenge but CQ declines with age!*



% OF PARTICIPANTS SCORING AT A CQ GENIUS LEVEL BY AGE  
(Source: *Breakpoint and Beyond* by George Land & Beth Jarman, 1992)

# EMPLOYABILITY & JOB GROWTH

OVER THE PAST 10 YEARS, GROWTH IN STEM JOBS WAS 3X GREATER THAN THAT OF NON-STEM JOBS.



80%

80% of the fastest growing occupations in the United States depend upon mastery of mathematics and scientific knowledge and skills, but students are not currently equipped to satisfy this growing need.



# SOCIAL EQUALITY

ARE LESS LIKELY TO EXPERIENCE  
JOBLESSNESS.

COMMAND 26% HIGHER WAGES THAN  
NON-STEM WORKERS.



COMPUTER  
PROGRAMMERS



PHYSICISTS



PETROLEUM  
ENGINEERS



SURVEY TECH.



ENGINEERING  
MANAGERS



SALES REP.



FOREST TECH.

75% of all college students are women and students of color, but they represent only 45% of STEM degrees earned each year.

**COLLEGE STUDENTS**

**WOMEN AND STUDENTS OF COLOR**

75%

**STEM DEGREES**

45%

# WHAT WE CAN DO?

## **The STEM Alliance of Larchmont-Mamaroneck**

**VISION: To serve as a network connecting our community to STEM inquiry as a means of solving problems and fostering innovation**

- Partnerships
- Growing the Conversation
- Programming
- Grants & Funding

# PARTNERSHIPS

- Non-profits
  - Environmental: Save the Sound, Sheldrake
  - Education: Westchester Children's Museum, Rye Arts, & Marine Education Centers
  - Recreation: Sailing Associations
  - Services: Hispanic Resource Center & Libraries
- Businesses
  - Local business owners: Lipstick Club & Chambers of Commerce
  - Larger businesses: MasterCard & Montefiore
  - Campaign around Girls in STEM
- Municipalities
  - Town Engineers
  - Recreation Departments
  - Summer Camps
- National Organizations
  - Maker Corps – STEM programs at Hommocks Co-Op Camp
  - Science Festival Alliance



# GROWING THE CONVERSATION

- Website with resources
- Newsletters
- Social Media for event & programming promotion
- PR Campaign around Girls in STEM

# PROGRAMMING

- STEM-tastic Saturday – May 15 to May 16, 2015; STEM festival
- Tinkering Nights @ all four elementary schools
- Hour of Code promotion & support – over 4,600 Mamaroneck students participated
- First Lego League Robotics in conjunction with the Boys & Girls Club of New Rochelle and the Hommocks PTA
- STEM Summit – focus groups to engage various conversation partners in the work of identifying coordinated strands of STEM learning as targets for work with partners
- Explore Your Opportunities Conference for 7<sup>th</sup> Grade Girls @ College of Mount Saint Vincent in the Bronx

# GRANTS & FUNDING

- Increase resources for STEM learning
- Apply for grants – in conjunction with partners
- Support focused fundraising initiatives

# MORE RESOURCES

- The Case for STEM Education: Challenges & Opportunities, Roger W. Bybee
- Design, Make & Play, Margaret Honey & David E. Kanter
- Invent to Learn, Silvia Libow Martinez & Gary Stager
- [Edutopia.org/STEM-Strategies](http://Edutopia.org/STEM-Strategies)

