

Bridging the STEM Attraction Gap

Hands-on learning works - sparking youth interest in STEM
(Science, Technology, Engineering & Math)



Join the national movement to spark more youth interest in science, technology, engineering and mathematics (STEM), especially for girls and minorities who remain under represented in STEM careers.

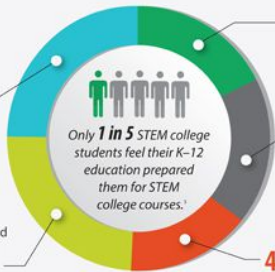
The State of American Youth

63%

of high school graduates are not prepared for college-level science & 57% are not prepared for college level math.¹

26

The number of industrialized nations whose high school students performed better than U.S. students in math in 2012.²



63%

Nearly two-thirds of American teens have never considered a career in engineering.³

21st

U.S. 15-year-olds currently rank 21st in science test scores among 34 developed nations.⁴

43%

of female high school graduates said math was one of their favorite subjects, compared to 50% of male high school graduates.⁵

The State of America's Workforce



UNITED STATES

40%

of U.S. companies report difficulty in filling positions because of a lack of STEM skills.⁶

INTERNATIONAL

\$2.5 Trillion

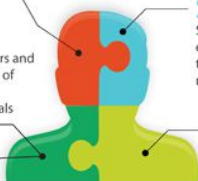
The U.S. would gain an extra \$2.5 trillion in Gross Domestic Product between now and 2050 if its students scored at the international average on math and science tests.⁷

27%

of the new high-skills jobs related to agriculture that will be created in the next five years will require a STEM education.⁸

86% of engineers and 74 percent of computer professionals are men.⁹

14% of the engineering workforce is made up of women.¹⁰



21%

STEM employees earn 21% more than individuals in non-STEM fields.¹¹

10%

Underrepresented minorities hold only 10% of science and engineering jobs despite making up over a quarter of the U.S. population age 21 and older.¹²

Hands-on Learning Sparks STEM Interest



Hands-on interactive projects get more students interested in science at an early age compared to the traditional lecture and textbook method.¹³

66%

of kids participating in STEM programs say their favorite thing is hands-on activities and projects.¹⁴

Top Ways to Attract Youth to STEM

Grow interest in STEM-related job.

1

59%

of youth would like to have a job related to science when they graduate from school.¹⁵

Create STEM Leadership Opportunities to Build Confidence.

3

69%

of 4-H STEM program youth participants complete a STEM community service project.¹⁶

51%

of 4-H STEM program youth participants teach others about science.¹⁷



2

Make STEM fun and accessible beyond the classroom.

70%

of youth say science is their favorite subject when participating in positive youth development programs.¹⁸

60%

do science-related activities not related to school work when participating in positive youth development programs.¹⁹

Note: All statements above are the outcomes of 4-H youth program evaluation.

Sources:

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4. Math Instruction Study (MIS) Mathematics Student & Parent Study commissioned by Microsoft 2011

5. News Release, 08/04/10/10

6. OECD/PIISA Assessment, 2012

7. National Center for Education Statistics, U.S. Department of Education, 2013

8. Readings Institute, 500 Teaching, Job Vacancies and STEM Jobs, 2014

9. Washington Center for Equitable Growth, January 2013

10. <http://nces.ed.gov/ipeds/data/ipedsreports/2014/ipeds2014-national-higher-education-survey>

11. U.S. Bureau of Economic Analysis, 2014

12. Readings Institute, 500 Teaching, Job Vacancies and STEM Jobs, 2014

13. National Science Foundation, Science & Engineering Indicators, 2013

14. Purdue University, 2008

15. 4-H Science Youth Engagement, Attitudes and Knowledge (STEM) Survey, 2012

16. 4-H Science Youth Engagement, Attitudes and Knowledge (STEM) Survey, 2012

17. 4-H Science Youth Engagement, Attitudes and Knowledge (STEM) Survey, 2012