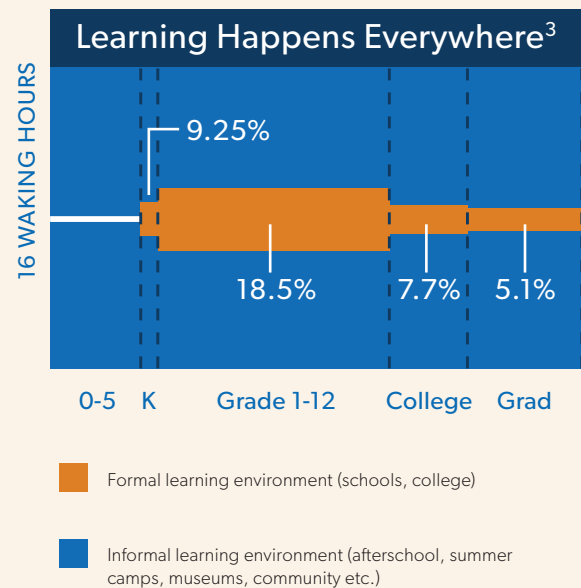# Students Achieve More with **Afterschool STEM**

Learning in science, technology, engineering and math (the subjects collectively known as STEM) helps students succeed in school and prepares them for careers that are driving global economic growth.

Nationwide, states and schools are engaging diverse partners like afterschool programs, libraries, museums, universities, and businesses to ensure that students have access to high-quality STEM education. By fully utilizing the hours outside of school, and taking an all hands on deck approach to maximize collective impact, we can ensure that our kids are prepared for the future.


Afterschool STEM offers students unique benefits

- **Extra exposure:** Children spend less than 20 percent of their waking hours in school.[1] Afterschool STEM can almost double the amount of time some students have to question, tinker, learn and explore STEM topics.[2]

- **Change of scene:** Afterschool STEM engages students in hands-on, real-world projects. These programs offer innovative ways for students to practice STEM skills in an informal space. This makes STEM more accessible, more interesting, and helps to build fluency, much like immersing oneself in a new language.

- **A chance to follow their spark:** High-quality afterschool STEM cultivates interest, builds real STEM skills and helps students connect STEM to their lives and communities.[4]

- **Opportunity for all:** The wealthiest 20 percent of families spend almost seven times more on enrichment activities outside school for their children than do the poorest 20 percent.[5] Afterschool STEM helps to close this gap by offering engaging learning programs to a diverse range of students.

Learning Happens Everywhere[3]

16 WAKING HOURS

9.25%

18.5%   7.7%   5.1%

0-5   K   Grade 1-12   College   Grad

■ Formal learning environment (schools, college)

■ Informal learning environment (afterschool, summer camps, museums, community etc.)

Afterschool **Alliance**

afterschoolalliance.org

Research shows states, schools, students, and communities benefit from afterschool STEM.
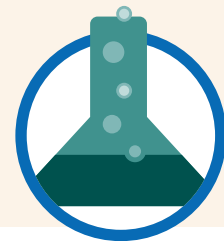
Students in afterschool STEM gain interest and stay engaged in STEM learning and careers.

- Among nearly 1,600 youth in 160 afterschool programs, across 11 states, more than 70% of students reported positive gains in their attitude towards STEM, their personal STEM identity, STEM career knowledge, and 21st-century skills, including perseverance and critical thinking.[6]

- The more students participate in STEM learning opportunities after school, the more interested they become in STEM subjects and majors.[7]

Building capacity and focusing on quality matters.

- In the same multi-state study referenced above, the afterschool programs with the highest quality ratings demonstrated the most positive student outcomes.[6] The gains in STEM interest and skills underscores the return on investment in systems that support quality and partnerships.

Additional research about the impact of afterschool STEM is available at

impacts.afterschoolalliance.org

Afterschool STEM supports students' academic achievement.

- Students who participate in intensive afterschool STEM programs, like Girlstart in Austin, Texas, improve their academic performance by earning higher test scores, taking more science and math courses, and having higher rates of high school graduation.[8]

- Regular participation in afterschool programs has been shown to narrow the math achievement gap between students from low- and high-income families.[9]

- Among students who attend the Clubhouse Network, an afterschool program that provides hands-on technology learning to students at 51 sites nationwide, 91 percent care more about doing well in school, 90 percent try harder at school, and 85 percent feel like they are more successful in school. Students attributed the changes to their participation in the Clubhouse.[10]

Collaborations between afterschool STEM programs and school teachers build skills among both sets of educators.

- At the STEM Educators Academy in New York City, classroom teachers and afterschool educators engage in joint professional development at premiere science institutions to co-design and co-teach STEM. As a result, the quality of STEM activities increased and both sets of educators increased their confidence in teaching STEM.[11]

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