

# Students Achieve More with Afterschool STEM

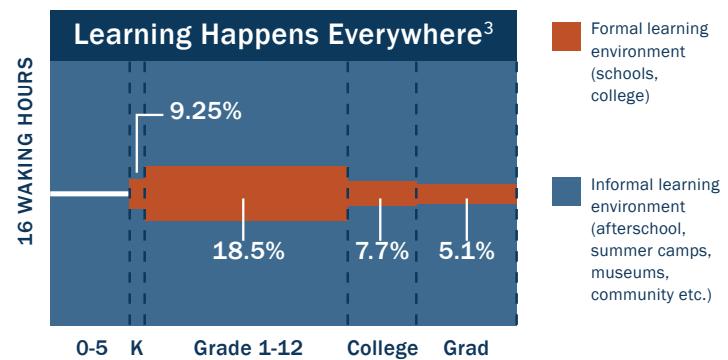
Learning in science, technology, engineering and math (the subjects collectively known as STEM) helps students succeed in school and prepares them for careers that are driving global economic growth. Nationwide, states and schools are engaging diverse partners like afterschool programs, libraries, museums, universities, and businesses to ensure that students have access to high-quality STEM education. These experiences represent expanded learning opportunities, which refer to before and afterschool, summer, and intersession learning programs.

The Every Student Succeeds Act (ESSA) gives every state the opportunity to establish a coordinated and intentional network of STEM partners in its K-12 education plan. This is a critical time for states to secure resources that will help their students gain fluency in STEM, strengthen opportunities for their schools and communities, and position them for economic prosperity. By fully utilizing expanded learning opportunities within 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.



## Expanded Learning Opportunities in STEM offers students unique benefits

- Extra exposure: Children spend less than 20 percent of their waking hours in school.<sup>1</sup> Afterschool STEM can almost double the amount of time some students have to question, tinker, learn and explore STEM topics.
- 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.<sup>4</sup>



- 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 lowest income 20 percent.<sup>5</sup> Afterschool STEM helps to close this gap by offering engaging learning programs to a diverse range of students.

ESSA Title IV, Part A aims to provide funding to every state and district to support well-rounded learning opportunities with a strong emphasis on STEM education. Authorized activities include collaboration among educators in schools, afterschool programs, and other education partners, to provide hands-on learning and engage students in STEM. By prioritizing STEM, afterschool programs, and other informal learning activities in their applications for Title IV-A funds, state and district leaders can help their students prepare for future success.

# Research shows states, schools, students, and communities benefit from afterschool STEM.



## Recommendations for aligning STEM and ESSA goals with 21st CCLC Learning.

The following statements were created by a large group of Oregon stakeholders with a strong mutual interest in moving to action relating to taking advantage of the new flexibility available through ESSA:

**Vision:** Every Oregon learner is prepared to meet their aspirations through equal access to personally relevant, well-rounded education opportunities leading them to develop comprehensive skills for learning. This learning occurs across time and settings—providing a spectrum of meaningful career options.

### Title I

Use STEM strategies for targeted support, providing interconnected, well-rounded education in an alternative, safe and supportive space after school.

Inclusive language that explicitly defines Innovative solutions to deliver cutting-edge equity strategies (addressing ethnic and special need issues) in an ever-changing learning environment

### Title II

Provide educators with real-world training and experience in diverse settings, including afterschool and summer program opportunities, as part of the process for earning their hours of practice and observation.

Provide additional educator supports that can connect formal and informal educators, such as peer mentoring, joint training, cultural competency, and long term relationships between industry/educators



### Sources

- <sup>1</sup> Banks, J., Au, K., Ball, A., Bell, P., Gordon, E., Guitierrez, K., ...Zhou, M. (2007). Learning in and out of school in diverse environments: Life-long, Life-wide, Life-deep. Seattle, WA: The LIFE Center, University of Washington, Stanford University, SRI International and Center for Multicultural Education, University of Washington. Retrieved from [http://life-slc.org/docs/\\_Banks\\_etal-LIFE-Diversity-Report.pdf](http://life-slc.org/docs/_Banks_etal-LIFE-Diversity-Report.pdf).
- <sup>2</sup> Dorph, R., Goldstein, D., Lee, S., Lepori, K., Schneider, S., Venkatesan, S. (2007). The Status of Science Education in the Bay Area: Research Study e-report. Lawrence Hall of Science, University of California, Berkeley, California

### Title IVA

Encourage local districts to build on STEM learning during the regular school day by using Title IV, Part A funds to provide afterschool STEM programs that offer hands on engagement and help students develop their interests, confidence, and experience in career building pathways.

Emphasize that the Department of Education recognizes afterschool and summer programs as evidence-based supports that help provide a well-rounded supportive education for students—and that districts can choose afterschool and summer programs as such supports.

### Title IVB

Ensure that programs, parents, and students are meaningfully consulted and are included in state-level advisory groups for 21st CCLC. It will be important to involve business, education, afterschool, parents and community partners to have an integrated and leveraged approach to student preparation in and out of the school day and summer and into the workforce.

Additional funding for PD from a 3% to 5% set aside. This component if properly implemented could mean an increase of quality age appropriate training for afterschool educators in high quality STEM and CTE fields.

**In partnership with community based organizations, schools should use these recommendations to enhance and expand STEM opportunities available to students**

<sup>3</sup> LIFE Center. (2005). The LIFE Center's Lifelong and Lifewide Diagram. Retrieved from <http://life-slc.org/about/about.html>.

<sup>4</sup> Krishnamurthi, A., Noam, G., & Ballard, M. (2014). Examining the Impact of Afterschool STEM Programs. Washington, DC: Afterschool Alliance. Retrieved from <http://afterschoolalliance.org/ExaminingtheImpactofAfterschoolSTEMPrograms.pdf>.

<sup>5</sup> Duncan, G. J. & Murnane, R. J. (2011). Whither Opportunity? Rising Inequality, Schools, and Children's Life Chances. New York, NY: The Russell Sage Foundation.