

The **NISE Network** brings people together to learn and talk about current science, technology, engineering, and math (STEM).



The National Informal STEM Education Network (NISE Net)

advances learning opportunities across the United States by bringing cutting-edge STEM research to museum exhibits and programs, improving the practices of educators and scientists, and creating lasting, valuable relationships among individuals and organizations.

“NISE Net materials are wonderful! They make it possible for us to present science topics in a way that fits with our museum mission and connects with our guests.”

—LAUREN GREER Grand Rapids Children’s Museum, MI

Network partner organizations engage

**11 MILLION
PEOPLE EACH YEAR**
IN HIGH-QUALITY STEM LEARNING!



95%
OF PARTICIPANTS
**REPORT HIGH LEVELS OF
INTEREST AND ENJOYMENT**
with network
activities and exhibits

Hundreds of communities and thousands of educators across the United States participate in the NISE Network.

NISE Net is active in communities across the entire country. Partner organizations use Network resources to engage diverse audiences in their communities, including groups that are traditionally underserved by STEM institutions and underrepresented in STEM fields.

NISE Net partners share resources, ideas, and experiences with each other.

NISE Network leaders and practitioners develop and study hands-on activities, exhibits, public programs, and media. Our project teams create resources and coordinate activities nationally and regionally, while partner organizations implement project activities locally. As Network partners participate in project activities, they adapt and improve NISE Net materials, generating new ideas and learning.

Anyone that takes part in our activities and uses our free resources is part of the NISE Network! There are many pathways to participating in NISE Net. Receiving one of our hands-on activities toolkits, attending one of our online workshops, or downloading any of our free resources on nisenet.org are just a few ways to get involved in the Network. To get started, sign up for our newsletter and reach out to your regional hub leader: nisenet.org/contact.



The NISE Network is active in all 50 states and several US territories.



Educators, scientists, museum volunteers, and other professionals use NISE Net materials to engage diverse participants in learning about STEM.

“The NISE Network has been key to my career growth and success. The professional development and networking aspects of NISE Net have had a huge impact on the field.”

—PAUL FREILING Saint Louis Science Center, MO

Through their participation in NISE Net:

97%
OF PROFESSIONALS
IMPROVE
SCIENCE
COMMUNICATION
SKILLS

78%
OF PARTNERS
COLLABORATE
WITH OTHER
LOCAL
ORGANIZATIONS



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nisenet.org

People learn about STEM throughout their lives—in and out of school.

While we often associate learning with school, there are actually more opportunities to learn at home, on the job, in the community, and in nature. The average American spends only 5% of their lifetime in the classroom. Even children spend only 20% of their waking hours at school (Banks et al., 2007; Falk & Dierking, 2010). Informal STEM education supports a lifetime of learning!



of children's waking hours are
OUT-OF-SCHOOL TIME

Time spent out of school can be transformed into time for STEM (science, technology, engineering, and math). An expanding ecosystem of cultural and community organizations provide learning opportunities for families with children, youth, teens, and adults of all ages.

Informal STEM learning is fun—and important. Both in and out of school, learners can practice scientific reasoning, use engineering design thinking, and understand fundamental STEM concepts. Informal learning settings are particularly good at sparking interest and motivation to participate in STEM activities, and at helping learners develop an identity as someone who knows about and uses STEM (National Research Council, 2009).

Informal STEM education is informed by data and experience. A professional community of practitioners design, implement, and study out-of-school STEM learning programs, exhibits, and media. Their work is informed by evaluation studies, research on learning, and wisdom from practice.

Research has identified common characteristics for productive out-of-school STEM programs for youth (National Research Council, 2015):

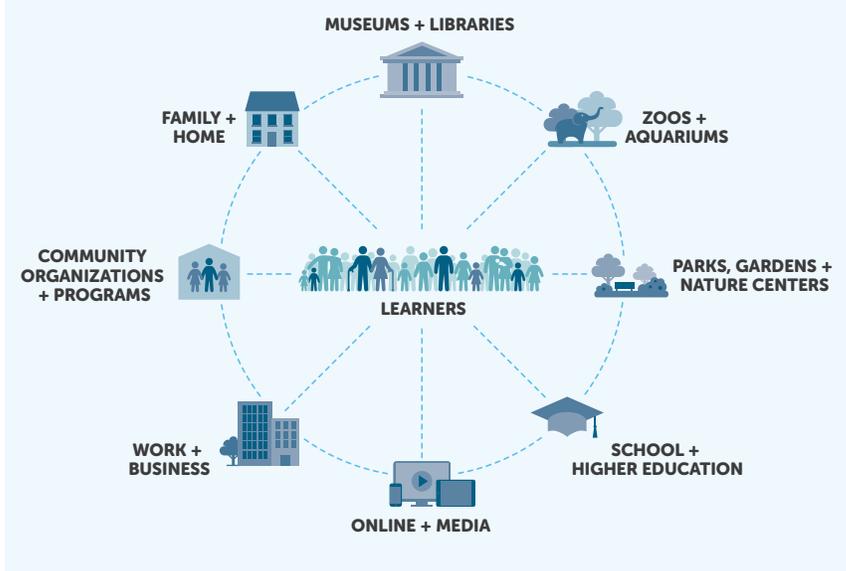
1. Engage young people intellectually, academically, socially, and emotionally
2. Respond to young people’s interests, experiences, and cultural practices
3. Connect STEM learning in school, out of school, at home, and in other settings

Informal STEM education is designed for everyone. The field is committed to promoting equitable opportunities for diverse learners. By gathering, studying, and sharing evidence about what works best, the field is continually improving in its efforts to involve all people in learning about and contributing to STEM.



Informal STEM education is vital to creating a pathway from initial interest through the development of an identity as a science learner, and, in some cases, pursuit of a STEM career.

A local STEM ecosystem includes many organizations



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 <https://education.uw.edu/cme/LIFE>.
 Falk, J. H., & Dierking, L. D. (2010). The 95 percent solution: School is not where most Americans learn most of their science. *American Scientist*, 98(6), 486–493. DOI: 10.1511/2010.87.486.
 National Research Council. (2009). *Learning Science in Informal Environments: People, Places, and Pursuits*. Washington, DC: The National Academies Press. <https://doi.org/10.17226/12190>.
 National Research Council. (2015). *Identifying and Supporting Productive STEM Programs in Out-of-School Settings*. Washington, DC: The National Academies Press. <https://doi.org/10.17226/21740>.