

Increasing STEM Awareness | Regional STEM Networks

In Fall 2020, STEM stakeholders from across Nevada came together for the STEM Summit, hosted by the Nevada STEM Networks. During the STEM Summit, STEM program designers, facilitators, educators, industry leaders, and government representatives discussed and identified needs for the State of Nevada's STEM ecosystem.



As described in each region's Strategic Direction, three major themes arose from the Summit:

- Equity in STEM
- Awareness of STEM opportunities
- Access to high quality STEM education

The committees in each region (the Northwestern, Rural, and Southern) have been compiling best practices regarding increasing awareness in STEM, as well as examples of local programs that model strategies to raise awareness in their community. Below you'll find strategies, examples, tools, and research regarding awareness in STEM.

On Page 2, you will find a graphic that represents a variety of sectors that contribute to STEM Awareness in Nevada. The link in each sector will take you to the page with strategies specific to the stakeholders described.

This document is meant to be a launch point for those with an interest in raising awareness of STEM in Nevada. This document is intended to be an idea generator. We hope to use this document with stakeholders in the region as we collaboratively work toward raising awareness of in STEM.

To help us raise awareness of your STEM program, please complete this [survey](#) to be added to the [Regional STEM Networks STEM Asset Map](#).

For more information, please visit https://osit.nv.gov/STEM/Regional_STEM_Networks/.

How can I increase STEM awareness?

Higher Education



Offer STEM programs to K-12 students as well as resources, research, and training opportunities to teachers.

Industry



Provide real-world, place-based examples of STEM to bring academic learning to life and build interest and excitement about STEM.

PreK-12 Schools

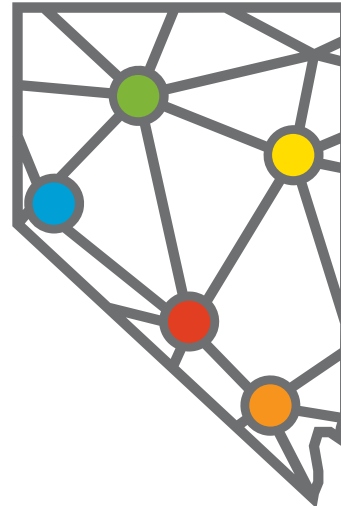


Offer rich STEM Learning experiences for students and professional learning support for educators.

Students and Families



Help your student explore their interest in STEM and support STEM success.



Community Partners





Provide local expertise, community resources, and philanthropic support.


Informal STEM programs





Offer equitable, high-quality STEM learning opportunities that emphasize real-world problem solving and STEM career exploration.


<p>Connect learning to the community:</p> <ul style="list-style-type: none"> • Build a service project into the curriculum and involve the community. • Take students on walking or bused field trips that allow them to see local problems first-hand and the industries working to solve them. • Have students do hands-on volunteer work during the field trip to see the issue from another perspective. • Bring the community in to help guide the school’s mission, direction, culture, and values. • Deepen teacher understanding of STEM careers by connecting them to local externships. <p>Building Community to Create Your STEM Ecosystem - NSTA</p>	<p>Schools can register for and use Nepris for Nevada for free. Nepris is a site that allows students to connect with industry professionals when a field trip or in-class visit is not an option.</p> <p>Teachers make an account and request to speak with a local scientist, engineer, entrepreneur, computer programmer and more.</p> <div data-bbox="884 532 1285 867" style="background-color: #e67e22; color: white; padding: 10px; text-align: center;"> <p>PreK-12 Schools</p>  <p>Offer rich STEM Learning experiences for students and professional learning support for educators.</p> </div>	<p>Host a "STEM Fest":</p> <ul style="list-style-type: none"> • Allow students to showcase projects and accomplishments. • Invite families to participate in STEM activities and learn what STEM looks like both in the classroom and in the community. • Help caregivers understand that STEM is for all students. • Include diverse industry and community members to ask questions and provide feedback on student projects. • Help families and the community see the importance of STEM education and how they can support it. <p>Building Family-Centered Models for Science Education through Learning in Places – STEM Teaching Tools</p>
<p>As a part of problem-based learning projects, have students visit Nevada Career Explorer and identify industries and careers that work to solve the problem.</p> <ul style="list-style-type: none"> • Allow them to explore careers that match their interests and tackle the problem from that perspective. • Students can identify training, skills and the education needed to work in those fields. <p>Use career assessments starting at an early age to help students identify their strengths and potential STEM-related career pathways.</p>	<p>Schools can increase STEM awareness and build student STEM identities.</p> <ul style="list-style-type: none"> • Make explicit connections between learning and Nevada STEM jobs. • Use diverse industry mentors that match the demographics of the students in the classroom for problem-based learning. • Offer a wide array of STEM electives and Career and Technical Education. • Offer regular, accessible communication to families regarding STEM opportunities and pathways. 	<p>Shift school culture to help students build their STEM identities and help teachers grow professionally.</p> <ul style="list-style-type: none"> • Seek out and offer professional learning in NGSS, Problem-Based Learning, Growth Mindset, Engineering Practices, and the Design Process. • Consider becoming a Governor’s Designated STEM School and work to transform the mission and vision of your school.

<p>Visit a local library or community center with a Makerspace and learn new skills, use community resources like 3D printers, and explore innovation culture with others. Look at the calendar for upcoming events that match a skill your child wants to learn.</p> <p>Washoe County Library Maker Services UNR Library Making Resources Carson City Library Capital Makers</p>	<p>Help your student discover student-focused career websites like Nevada Career Explorer. Encourage them to navigate quizzes and explore careers that match their interests. As they look at the training, skills, and the education needed to work in those fields, help them find experiences and opportunities to build the skills, experience, and the confidence to pursue STEM careers.</p>	<p>Do a search for a national, state, or local innovation competitions that your child can enter. Help them identify a mentor, in your community, in local industry or Higher Education institutions that can help them work on an innovative and competitive entry.</p> <p>Nevada STEMHub STEM Competitions List</p>
<p>Young children are born scientists. They investigate how the world works and build critical thinking skills. Families can encourage scientific investigations. Early science exploration is the key to helping students learn science, but you do not have to be the expert. Give children the opportunity to ask questions and look for answers together.</p> <p>To Boost Science Learning, Start Early - Education Development Center</p>	<div data-bbox="848 680 1253 1008" data-label="Complex-Block"> <p>Students and Families</p>  <p>Spark student interest in STEM and support STEM success.</p> </div>	<p>Look for local STEM events to introduce your child to opportunities in Nevada.</p> <ul style="list-style-type: none"> • Search for events that showcase local entrepreneurs as they pitch new ideas, share inventions, or think tank a product. • Visit a career fair, a career center or local higher education sites to learn about opportunities for internships, apprenticeships, or programs of study they may want to consider. • Join the STEM Hub newsletter to learn about upcoming opportunities.
<p>Attend your school’s STEM Fest, Science Fair, parent nights or other events sponsored by the school. Ask questions about student projects, opportunities for students to become more involved in STEM, and provide the school feedback.</p>	<p>Use the Nevada STEM Asset Map to identify local clubs, activities, and programs.</p> <p>If there is not a program close enough, encourage the school to add STEM afterschool programs so all students have an opportunity to participate in their neighborhood.</p>	<p>Science is watchable, readable, playable, and doable. Connect with your school to find clear, high-quality, developmentally appropriate science experiences for your child that model ways to engage with science concepts, practices, and activities.</p>

<p>Host open houses with hands-on activities for caretakers to experience with youth. Use this opportunity to connect families with STEM resources and teach them about the importance and benefits of STEM pathways.</p> <p>Sierra Nevada Journeys hosts Family STEM Nights</p>	<p>When developing new programs, research the local STEM ecosystem and identify community needs. Design programs that strategically engage underserved populations in activities that build their STEM identity.</p> <p>Nevada STEM Asset Map</p>	<p>Utilize local mentors from diverse populations that reflect underserved populations.</p> <p>Example programs that model and champion the use of diverse mentors: Girls Who Code, Technolochicas, Great Minds in STEM</p>
<p>Push a marketing campaign with partners and schools about the importance of STEM, informal STEM, and local opportunities. Consider using social media, local news outlets, State communications services, and for-profit marketing companies.</p>	<p>Informal STEM programs</p>  <p>Offer equitable, high-quality STEM learning opportunities that emphasize real-world problem solving and STEM career exploration.</p>	<p>Promote innovation culture and encourage youth to collaborate by creating a makerspace or promote existing locations.</p> <p>Makerspace in Libraries Washoe County Library Maker Services UNR Library Making Resources Carson City Library Capital Makers</p>
<p>Make programs accessible to families and schools. Consider cost, location, time/day programs are offered, languages spoken by facilitators, inclusion of food, and transportation. Communicate with participants how the program is addressing barriers.</p>	<p>Provide high-quality STEM professional learning opportunities, or host networking events for local teachers and industry that engage them in the organization's work.</p>	<p>Act as liaison between industry and schools to strategically introduce students to STEM career pathways. Engage students in activities that mirror authentic professional STEM experiences. Work with industry to provide students with up-to-date information about Nevada's STEM careers and skills needed to enter those careers.</p>

<p>Get involved with the Nevada STEM Network. Share information about STEM needs and opportunities with your community in your organizational newsletters.</p>	<p>As local schools develop Performance Plans or engage in the Accreditation process, become a member of the team. Learn about or have a voice in the school’s vision, high quality STEM initiatives, and curriculum; then become a champion for STEM and the school in the community.</p> <p>Visit the Nevada STEM Framework to learn more.</p>	<p>Add yourself to Nepris for Nevada. Nepris is a site that allows students to connect with professionals to develop solutions to real world problems. Students and teachers can request to speak with a local expert who can support STEM learning by sharing professional local expertise.</p>
<p>Engage with student clubs or afterschool programs to offer mentorship, coaching, or connections to resources.</p> <p>Example organizations that use community mentors: FIRST or VEX Robotics Competitions Girl Scouts UNR Career Explorations: Women in STEM</p>	<p>Community Partners</p>  <p>Provide local expertise, community resources, and philanthropic support.</p>	<p>Reach out to business advocates, such as industry groups and local chambers, to learn about existing opportunities and find ways to support each other.</p> <p>Reno-Sparks Chamber of Commerce Elko Chamber of Commerce</p>
<p>Become a sponsor or supporter of a school. When they need materials, storage solutions, volunteers or have other requests, work to link them to resources through your community and industry connections.</p>	<p>Use the Nevada STEM Asset Map to learn about local Informal STEM organizations. Volunteer to support summer camps, local programs, and STEM events.</p> <p>Examples of Informal STEM Education programs that can be found on the STEM Asset Map: Tahoe Science Center, Keep Truckee Meadows Beautiful, DRI Science Alive</p>	<p>Become an advocate for students and schools. Engage county representatives, the Department of Education, or State legislators in conversations about STEM education.</p> <p>Nevada Governor Boards & Commissions</p>

<p>Partner with Pre-K through 12th grade teachers to create real-world problems for students to solve. Support the process by working with the students, providing feedback, and offering industry expertise on the topic. Spend some time with the teacher in advance to learn about the school, the classroom, and the students.</p>	<p>Showcase Career and Technical Education specializations and district capabilities. Attend the CCSD open house for employers. Offer presentations to classrooms about on-the-job training or industry certifications that can help students prepare for openings.</p>	<p>Support the State, County and school efforts to improve the standards that guide Career and Technical Education as well as STEM related disciplines' education standards.</p> <p>Reach out to the Nevada Department of Education to learn more about the process and current standards.</p>
<p>Work with school districts, higher education, and community organizations to develop the workforce pipeline. Identify industry-recognized STEM training that is lacking in the community and design a path for high school students and recent graduates to learn the skills and earn the credentials needs to success in STEM industries. Offer externships to teachers.</p> <p>Visit OSIT.nv.gov to learn about grant opportunities to assist in this initiative.</p>	<div style="text-align: center;"> <p>Industry</p>  <p>Provide real-world, place-based examples of STEM that bring academic learning to life and build interest and excitement about STEM.</p> </div>	<p>Add your team to Nepris for Nevada. Nepris is a site that allows students to connect with professionals when a fieldtrip or in class visit is not an option. Students and teachers can request to speak with a local expert.</p>
<p>Host educational events on your site showcasing the real-world, local examples of STEM that enrich your community. Provide opportunities for youth and families to participate in hands-on learning related to your organization's STEM initiatives.</p> <p>Nevada Contractors Association hosts Careers in Construction videos for the community to learn about jobs in the field.</p>	<p>Participate in community events. Bring real-world examples of the technology, products, or problems that your organization works to solve.</p> <p>Examples of community events are: information booth at a job fair, STEM events, School STEM nights.</p>	<p>Work with your local school district to offer apprenticeships or sponsor a simulated classroom.</p>

<p>Actively engage the larger community in raising the awareness and quality of STEM learning opportunities and support increased access to these learning experiences to diverse and underserve community members, both youth and families. Examples: community events, parent education, and STEM advisory councils.</p>	<p>Develop well-trained and skilled educators and work to increase the quality of STEM education for students. Offer opportunities for teachers to engage in research and training on campus in increase teacher capacity, confidence, and enthusiasm about STEM.</p>	<p>Offer programs or services designed to foster STEM literacy in students. Help students build sufficient knowledge of STEM to engage in public discussions on related issues, the ability to be careful consumers of STEM information related to their everyday lives, and the skills needed to enter STEM careers of choice.</p>
<p>Develop partnerships between PK-12, STEM industry and higher education to develop workforce pathways. Identify industry-recognized STEM training that is lacking in the community and design a path for high school students and recent graduates to learn the skills and earn the credentials needed to succeed in STEM industries.</p> <p>Visit OSIT's Grants page to learn about the Workforce Talent Pipeline grant.</p>	<p>Higher Education</p>  <p>Offer K-12 students STEM programs, resources, research and training opportunities and support teacher development and growth.</p>	<p>Design programs for K-12 students, delivered by a diverse set of university students and staff, that strategically engage underserved populations in research and mentorship to develop strong STEM identities.</p> <p>Examples:</p> <ul style="list-style-type: none"> • STEM camps as a collaboration between school districts and higher education.
<p>Provide internship or research opportunities for students beginning at the high school level (age 16) to develop the STEM pipeline.</p> <p>Visit AEOP for information about funding opportunities.</p>	<p>Promote or host STEM events that bring together multiple STEM stakeholders from the region and provide opportunities for those stakeholders to share information about their initiatives.</p> <p>Examples of STEM events: Tech Alley, NCWIT, StartupNV's Pitch Day</p>	<ul style="list-style-type: none"> • Use students in STEM majors to facilitate programming and mentor younger students. • Higher education and PK-12 team up to support development of strong STEM schools by designing problem-based learning projects with the school.