EIS Elementary Institute of Science

Solutions in Science

2019 Annual Report

A LETTER FROM THE BOARD PRESIDENT & THE EXECUTIVE DIRECTOR

Dear Friends:

Science serves many purposes. It leads to new discoveries that can improve and save lives. It helps us understand the world. Science also offers a solution to a major problem that is a focus of EIS. That is the lack of education opportunities some kids face and the life-long consequences that can result. Our founder, Tom Watts, recognized this issue, which inspired him to start EIS.

Why STEM? STEM careers are financially rewarding and can serve as a path to upward mobility. Entry level STEM jobs, pay on average, 26% more than non-STEM jobs. STEM careers are also personally rewarding, as they can be used to solve the world's most challenging problems. Being part of the solution and making a difference in the world creates a great deal of job satisfaction.

EIS offers classes that cover a wide variety of STEM topics, ranging from astrobiology to 3-D printing. These programs provide a basis for kids to understand science, enhance critical thinking skills, and improve perseverance. More importantly, our programs help establish a "STEM identity" in our students. Having a STEM identity is a prerequisite for pursuing a STEM career. Evaluations of our programs show that we do this exceptionally well compared to other after-school science programs around the country.

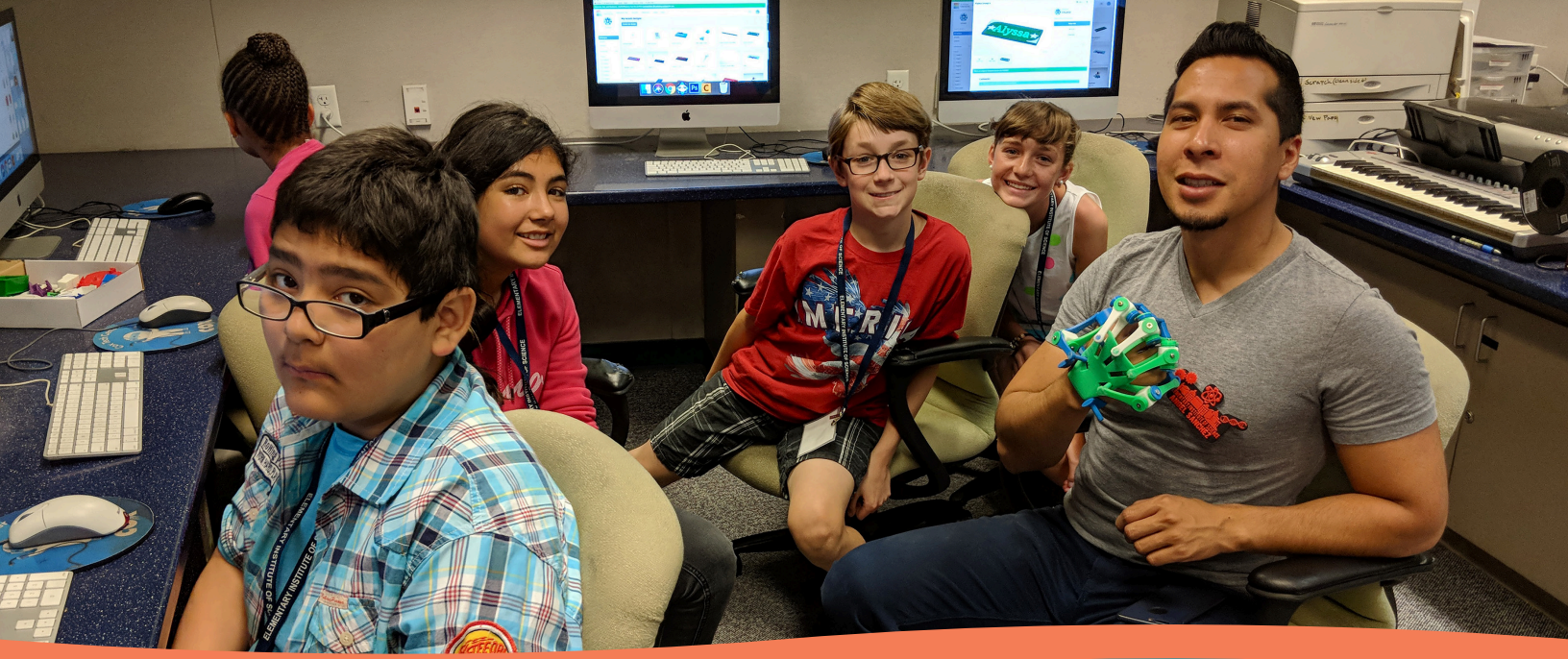
A significant challenge for today's STEM sector is the need for a skilled workforce as over 858 thousand new STEM jobs are projected to be added to the workforce over the next ten years. Unfortunately, a US Department of Education study found that less than 1/3 of high school freshmen are interested in studying or pursuing STEM as a career. EIS addresses that challenge by providing young students the interest, knowledge, and skills to enter the STEM field.

As San Diego businesses struggle to find workers, EIS is creating the STEM workforce of tomorrow while enhancing the prospects of students of today.

Sincerely,

Patsy Tomlin
Board President

Jim Stone
Executive Director



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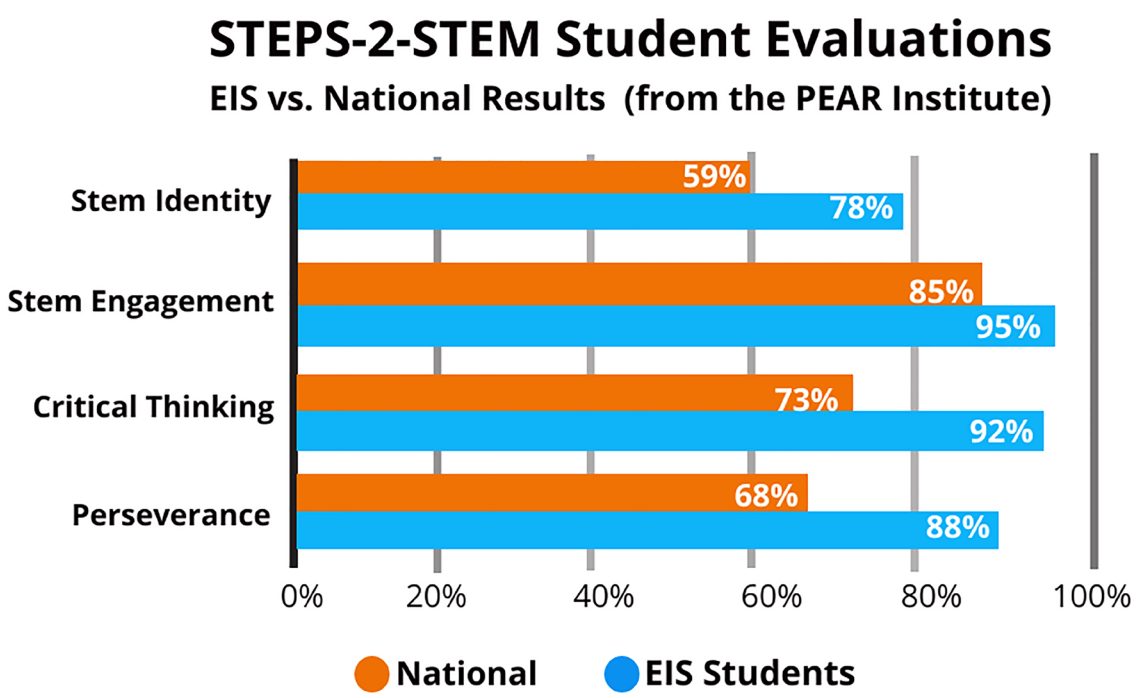
SUCCESS STARTS WITH FIRST STEPS

In 2016 EIS launched Steps-2-STEM with four school partners and 719 participants. Three years later, Steps-2-STEM is partnering with all eleven of the elementary schools in the southeastern San Diego community. These schools, plus three middle schools, comprise the Lincoln Cluster, the schools that feed into Lincoln High School. For decades, Lincoln has persistently struggled with academic outcomes and low graduation rates. Estimates are that close to 86% of the freshman entering Lincoln each year are below grade level in reading and math. High school is the time when students should be preparing for their futures, but first, they need to be prepared to succeed in high school. Steps-2-STEM was created as an early intervention to help children develop skills and interests in science, technology, engineering, and math (STEM).

One of the most significant benefits of STEM is that it fosters a love of learning. Instilling that drive to learn is at its most crucial stage during the elementary years and provides an antidote to the high cost of remediation and lost potential. Steps-2-STEM takes place on the schools' early dismal days. Students are transported by bus to the EIS Learning Center and spend the afternoon immersed in hands-on science learning. A new group of students cycles in every five weeks so that all interested students have the opportunity to attend.

In the 2018-2019 school year, Steps-2-STEM provided 25 hours of high-quality STEM education to 2,249 children. Instead of going home early or staying in unstructured aftercare, students are engaged in subjects like astronomy and environmental science. Students are designing the most effective methods for cleaning up oil spills, extracting DNA from strawberries, and testing robots. They learn scientific terminology, lab protocols, and much more. Through Steps-2-STEM, EIS is providing more hours of science to more students than ever before. Because when it comes to science, more is better.



Extensive research of afterschool opportunities consistently demonstrates that more time spent expanding learning in afterschool results in significant benefits for youth. These opportunities are associated with improved academic performances, gains in self-efficacy, and better work habits. [1] In fact, students at the greatest risk make the greatest educational (achievement) gains from out-of-school programming. We know that high quality after school programs like Steps-2-STEM can play a key role in closing the achievement gap between affluent and disadvantaged students.

The outcomes we are seeing tell us that Steps-2-STEM is on the right track. Steps-2-STEM is evaluated using the Common Instrument Suite (CIS), an assessment tool developed by the PEAR Institute (Partnerships in Education and Resilience). The CIS is administered across the US so that we can benchmark Steps-2-STEM against the national average. For STEM identity, Steps-2-STEM students scored 19 percentage points higher than the national average. Steps-2-STEM performed above the national average in all categories, including critical thinking, perseverance, and positive relationships with adults and peers. Improving the STEM readiness of students entering ninth grade at Lincoln High School was a bold undertaking. But, the 4,088 excited, engaged children that attended the first three years of Steps-2-STEM have shown us that it is highly probable that we can achieve our goal.

There are so many reasons for initiatives like Steps-2-STEM, not only in the southeastern San Diego community but also in low-income neighborhoods across the United States. Employers need a qualified STEM workforce. There isn't enough diversity in the STEM workforce. Students who enter high school unprepared are unlikely to make up those skills by graduation. We can't solve all these issues. But, Steps-2-STEM is offering solutions to our community. The skills gained in STEM education extend beyond those needed to be successful in STEM fields, preparing children with valuable skillsets for success in any industry and life.

1. Auger, A., Pierce and Vandell, D.I., April 2013). Participation in Out-of-School Settings and Student Academic and Behavioral Outcomes American Educational Research Association, San Francisco, CA

FIRE: FUTURE INNOVATORS IN ROBOTICS & ENGINEERING

With nearly 20% of the 21st century behind us, there are still surprisingly few women working in technology fields. According to a 2018 study published by the Society of Women Engineers, females hold only13% of engineering jobs. Women of color account for less than 4% of the engineering workforce.

In order to address this gender gap, EIS started a new initiative in 2016 aimed and getting more females involved in the technology side of STEM. Called Future Innovators in Robotics and Engineering, the initiative now has three successful programs. The FIRE initiative provides empowering role models and experiences to drive home the message that girls belong in STEM careers.

Our all-girl Botball® is a team-oriented robotics competition and serves as a perfect way to meet today's new common core standards. Consisting of 12 middle school girls who work together for more than 90 hours to build and program a pair of robots that compete at the regional level. Botball®addresses our nation's need for a well-prepared, creative, yet disciplined workforce with leadership and teamwork experience.

Girls Take Flight is a one-of-a-kind program that teaches high school girls to build and fly drones and to earn their FAA commercial drone pilot certification. The program, which is taught by a female drone pilot and a female computer engineer, provides 150 hours of classroom instruction and hands-on flight training in the field. Participants meet a number of professional women, including engineers, executives, and commercial drone pilots.

FIRE Up! is a 3-week tech camp introducing middle school girls to coding, robotics, and engineering. We take a project-based approach where girls work in teams to design, build, program, and operate robotic devices. The final week of the program features daily field trips to local universities and technology companies so participants can see where they can pursue a STEM degree as well as a STEM career.

EIS recommended me for an internship at the Salk Institute. I really enjoyed doing research and interacting with researchers and other interns at Salk. I remember Mrs. Anderson(Former Executive Director) attended our end of summer presentation and sat with me. I felt that she was proud of me.

My mother still lives in the same house in southeast San Diego and my children return each summer to attend camps. I think EIS is a great program and that it's really important for young people to have that experience with science and expand their horizons with a birds' eye view of opportunities that they wouldn't be exposed to until college.

Erica Rowe-Urquhart
Former Participant
Orthopedic Surgeon at Urquhart Orthopedic Associates, Bayonne, NJ

The training I received at EIS, things I learned in high school, and even in university, in addition to the hobbies I undertook and still partake in culminate into not just helping me with my success, but also helping me with the programs I'm working on. At the time when I was young, taking a lot of courses, like students now, you're not really thinking that you are learning the same stuff that you eventually learn in college. That's the cool thing about it.

Andrei Lucas
Former Student
Resident Dean of ECC Campus and Instructional Dean of Automotive, Skilled and Technical Trades, San Diego

"I definitely think that EIS gave me a great STEM foundation it really exposed me to a lot of different areas in science and technology that I don't think I would have been exposed to had I not been given the opportunity to attend EIS as a child. It really then inspired me to be bold in college and pick up a Geographic Information Systems minor. Which is definitely new age technology, working with digital maps and location analytics. I think because I was familiar with the STEM sciences, I felt comfortable moving into another STEM related field in college. Throughout my time at EIS, I had a lot of fun. I think the greatest part about EIS is students were able to learn through trial and error. You were able to really to get hands on with the projects"

Rebecca Bayer
Former Student
Assistant Director for Enrollment, University of Redlands, San Diego

COMMUNITY SCIENCE SOLUTIONS

The EIS Learning Center provides the optimal environment for hands-on learning. It embodies our conviction that the children in this community deserve the same tools and supports that are available to children in more affluent neighborhoods. More than just a building, the EIS Learning Center is a testament to what grassroots activism can accomplish. Accordingly, EIS shares our facilities and expertise with our community, which increases access to STEM learning and maximizes community resources.

Charter School Partnerships

While almost all schools provide science learning, very few schools have the variety of lab spaces, expertise, and equipment of EIS. EIS works with local elementary, middle, and high charter schools to provide solutions for STEM education. For instance, in partnership with Holly Drive Academy, EIS instructors provide weekly hands-on biology and chemistry labs at the EIS Learning Center on Tuesday mornings. On Wednesdays, Ingenuity Charter School teachers use our labs to teach their curriculum.

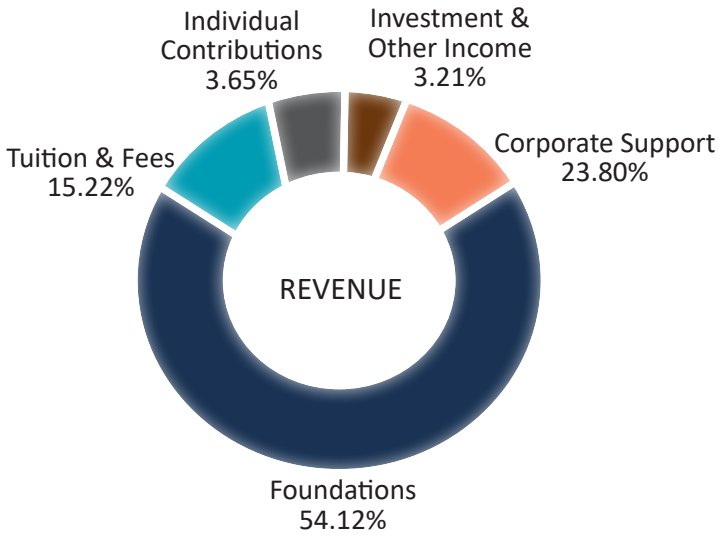
Community Service Learning Site

Many high schools require students to perform community service hours. At EIS, STEM-focused community service offers mutually beneficial opportunities that enrich our programs. For high school students, there are multiple options for community service through the Teen STEAM Café, Teton Science School Program, Girls Take Flight, and the Lab Assistant program. Many of our current Lab Assistants attended EIS as elementary students and are happy to give back to the place which inspired their love of science.

Innovative STEM Solutions for San Diego

Science finds its solutions through hypothesis, research, and invention. At EIS, we support innovators by providing a setting where they can explore their theories and test ideas. EIS has been the source for many local undergraduate and graduate students' projects over the years. Several local universities and for-profit companies also look to EIS to utilize their products or services and provide feedback. EIS students and instructors have participated in projects with the UCSD, USD, and San Diego State University. Companies such as BSD Education, Sony, and KidSpark have enhanced our programs with cutting edge products, curriculum, and training.

FINANCIAL INFORMATION

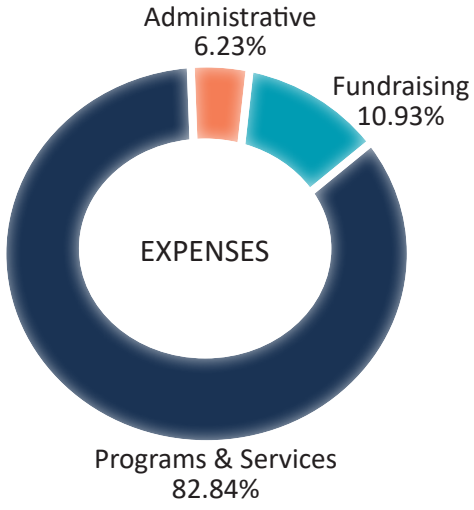


Revenue

Individual Contributions	$39,304
Corporate Support	$256,500
Foundations	$583,323
Tuition & Fees	$164,096
Investment & Other Income	$34,609
Total	**$1,077,832**

Expenses

Programs & Services	$920,601
Administrative	$69,248
Fundraising	$121,462
Total	**$1,111,311**



Financial information is pending final audit report for FY 2018-19.

SUPPORT SOLUTIONS IN SCIENCE

You Can Make an Impact

The generous donations of individuals, foundations, corporations, and the local community to EIS help provide solutions that will create equity in STEM education and economic opportunities for all.

Science solutions begin with your support. Just as there many different ways your support helps, there are many different options to support EIS.

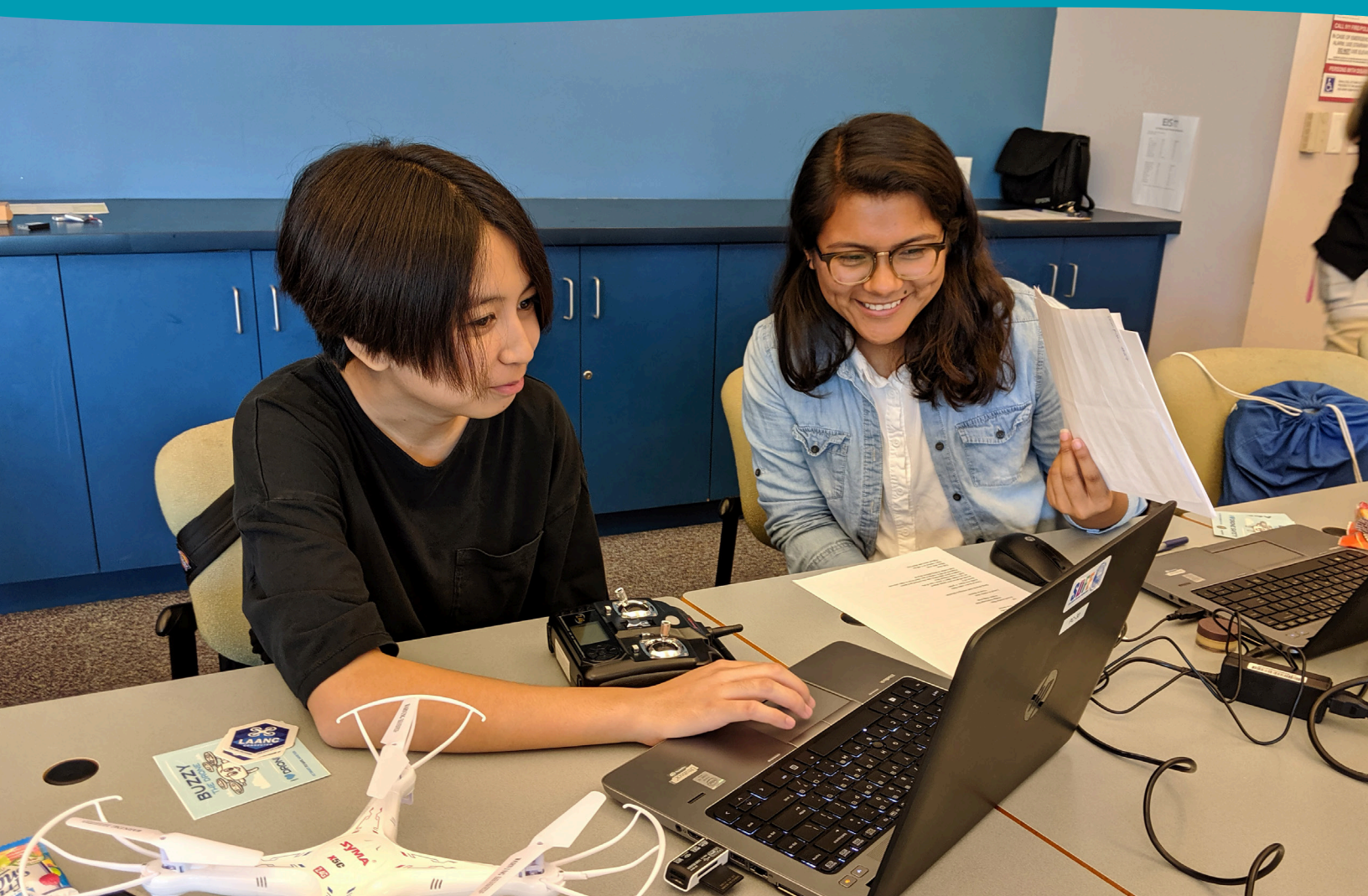
Make a **recurring donation** on a monthly, quarterly or annual basis.

Create an online **Peer 2 Peer Fundraiser** and rally your family, friends, and coworkers to support EIS.

Make a **Planned Gift** by including EIS in your estate plans.

Ask your employer if they have an **Employee Matching** program and double the impact of your EIS donation.

Make an **Endowment Gift** to create your own science legacy and help sustain EIS in perpetuity.



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We would like to offer special thanks to the **Legler Benbough Foundation** for its many years of generous support of the Elementary Institute of Science. The Legler Benbough Foundation provided $500,000 over a three-year period to launch and deliver Steps-2-STEM. There are no words to express our gratitude to Peter Ellsworth, the Executive Director of the Legler Benbough Foundation, and the entire Board for their trust in EIS, and their vast love and hope for children and youth of Southeastern San Diego.

EIS
Elementary
Institute
of Science

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