

2018 Grants: EIS

Elementary Institute of Science “Endemic Insect Species of Southern California”

Concept Statement: The Elementary Institute of Science has the potential to inspire our future generations that would not otherwise have the opportunity to participate in hands-on science projects, getting kids excited about bugs again!

Concept Description: San Diego is home to one of the most diverse ecosystems in the world, and the Elementary Institute of Science! This gives us an incredible opportunity to use what our environment provides to get kids excited and curious about the world around them. Our project is as follows: “Endemic Insect Species of Southern California”: This project will take place at EIS in our small garden and the local community hiking trails near our facility. We will use this grant to create a week-long summer project where students, under the guidance of the instructors, will collect, preserve, and display insect species found in and within one mile of EIS. Throughout the course of the project, we will discuss the importance of insects as it pertains to soil aeration, insect and plant pest control, decomposers, predator-prey relationships, and pollinators. As part of the identification process, we will also introduce the topic of invasive species and their effects on local insect and plant populations. Specimens collected and prepared by students will be displayed in a Riker specimen mount in the front lobby to inspire future generations and educate those who come into our building about our local entomology studies!

Project Goals and Objectives: The Elementary Institute of Science is home to not only one of the most diverse ecosystems in the world, but also one of the most diverse communities. Our students come from all

different backgrounds, all over the county, and gather at our institute to engage in hands-on learning experiences to further their understanding of science, technology, engineering and math. We are surrounded by trolley lines and hard concrete, yet inside we have created our own haven of learning—full of fish tanks and turtles; scientists and students; Erlenmeyer flasks and a garden growing food. Regardless of where a student comes from or the resources they were born into, they all deserve the opportunity to cultivate their skills as scientists. We will use this grant to introduce a new program to our hands-on science curriculum—entomology. Teaching entomology will fill a critical gap in our curriculum where students will gain a deeper understanding of our ecosystem and the important roles insects play in it—further deepening their own connection with the world around them. Our Endemic Species of Southern California project is a hands-on learning opportunity using live insects to explore our ecosystem, the living organisms within it, and the relationship between the two, using much needed resources to show our students there is more to the world than what they might see directly around them. Students will go out into the field and collect specimens living in our own backyard and be able to bring them back into the lab to observe and classify, and will take part in the preservation process. Our goal is to show our students how exciting the environment around them is, if they only take a minute to slow down and look! Teaching students to really take time in their observations and data collection is becoming more and more difficult with the increasingly fast pace of the world. By collecting specimens that are already present in our local environment, students will see first hand the value of investing time and energy into collecting specimens in the field, by going outside and having to find them themselves! Every student will get to participate in the entire preservation process. We have included activity lessons for our project in the attachments. The insect collection made by the students will be displayed at EIS for future generations to

learn and build off of, and all materials beside the chemicals used for the euthanasia jars will be reusable, so we can continue doing this project for years to come.

Project Budget: Our proposed budget is \$751.83. We offer 10 weeks of summer camp and average 400+ students a summer, making our cost per student <\$1.88 for the 10 weeks of camp. We have included a detailed spreadsheet titled “Entomology Budget” in the “additional documentation” portion of the application, where we listed all requested materials and cost with unit breakdown and attached hyperlinks leading to sourcing. All supplies beside the ethyl acetate and Riker specimen mounts are resources we can reuse year after year to continue and build on this project. (See details below.)

2018 Funding: Requested amount: \$752. Partially funded at \$650.

6/25/2018
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Proposed Budget for the Elementary Institute of Science “Endemic Insect Species of Southern California”, to be reviewed by the Entomological Foundation.

Equipment	# per unit	Cost Per Unit	# of units	Total Cost
Styrofoam insect mounting board	10	\$34.95	4	\$139.80
Euthanization Jar 8oz	1	\$8.25	3	\$24.75
Euthanization Jar 16oz	1	\$8.75	3	\$25.50
Riker Specimen Mount, 12 x 16 x 7/8"	1	\$17.25	10	\$172.50
Insect Pins (100)	100	\$14.25	5	\$71.25
Storage box	1	\$6.95	1	\$6.95
Ethyl acetate 500mL	1	\$11.40	1	\$11.40
Bug Magnifier	1	\$3.40	15	\$51.00
Choice Chamber	1	\$6.30	5	\$31.50
Insect nets (3)	3	\$8.99	3	\$26.97
Aquatic nets	1	\$5.69	2	\$11.38
Macroinvertebrate identification guide cards	1	\$46.35	1	\$46.35
Composition notebooks (12)	12	\$11	4	\$44
Example insects	1	\$10.50	4	\$42
Glassine envelopes	100	\$30.49	1	\$30.49
California insects ID book	1	\$15.99	1	\$15.99
Total				\$751.83
Cost Per Student Per Summer (~400 students/summer)				\$1.88