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[Santa Clara Valley Open Space Authority](#)

2020 Urban Grant Program

Deadline: [7/1/2020](#)

Marshmallow Minds

Marshmallow Minds Environmental STEAM Education Outreach Program

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\$ 34,000.00 Requested

Submitted: [7/1/2020 11:23:39 AM \(Pacific\)](#)

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Project Description [top](#)

Applicant Type

1. What type of organization is this?

- Public Agency
- School or School District
- 501(c)3 Nonprofit
- Eligible organization acting as Fiscal Sponsor for another organization

2. Does the application include a fiscal sponsor?

If the project includes a fiscal sponsor, the fiscal sponsor must be the applicant.

- YES
- NO

Overview

3. Which type of grant are you requesting?

- Small (\$10,000 - \$39,999)
- Large (\$40,000 - \$250,000)

4. Grant category (check all that apply)

- Environmental Stewardship and Restoration
- Parks, Trails, and Public Access
- Environmental Education
- Urban Agriculture / Food Systems

5. Type of project (check all that apply)

- Capital improvement (Large projects only)
- Planning

✓ Program

6. Project Location: Address / Neighborhood

What is the physical location of the project? If there is no physical location, please enter "N/A." If the project will be in multiple locations, please list all. Note: project location(s) must be within the Authority's jurisdiction.

Our staff will be based at 1487 Ormsby Dr, Sunnyvale, CA 94087.

Our Title-1 partner schools where we will provide classroom educational services are located in different districts.

-Stonegate Elementary (Title-1) School(7)

-Arbuckle Elementary (Title-1) School(6)

Online-based program (serving nationwide) - NA

Our field learning activities are in collaboration with the San Francisco Bay Bird Observatory(SFBBO) and their banding station is located at Coyote Creek at the boundary of Milpitas and San Jose. (2)

7. Project Location: Open Space Authority District (check all that apply)

A detailed map of the Authority Districts can be found under the Library tab, or online at <https://www.openspaceauthority.org/public-information/board-of-directors.html>.

- Authority District 1
- ✓ Authority District 2
- Authority District 3
- Authority District 4
- Authority District 5
- ✓ Authority District 6
- ✓ Authority District 7

8. Who does the project serve? Please indicate which Open Space Authority Districts are served (check all that apply)

A detailed map of the Authority Districts can be found under the Library tab, or online at <https://www.openspaceauthority.org/public-information/board-of-directors.html>.

- Authority District 1
- Authority District 2
- Authority District 3
- Authority District 4
- Authority District 5
- ✓ Authority District 6
- ✓ Authority District 7

9. Project Abstract

(Brief, 3-4 sentences)

Marshmallow Minds is a K-8 STEAM education provider to schools and communities. Through the OSA Urban grant, we will further the impact by

-creating environment-focused STEAM education modules and enabling field learning activities in collaboration with SFBBO;

-bringing equity in access to STEAM education to Title-1 schools in partnership with FGT;

Our deliverables will include one pilot program that benefits one Title-1 school from the underserved communities through this collaboration

Project Planning (20 points)

10. Describe the proposed project.

Marshmallow Minds is a K-8 STEAM education provider to schools and communities. As part of our commitment to preparing our partner schools for the 21st century, Design Thinking methodologies have been integrated into our STE(A)M curriculum. Design Thinking is a set of tools, methods, and processes by which students develop new answers to complex problems. It challenges students to combine empathy, creativity, and rationality to create innovative and resourceful solutions. By introducing students to different real-world problems in a design thinking framework and allowing them to apply STEAM hands-on learning, all the key 21st-century learning standards, Next Generation Science Standards, Common Core State Standards such as technology literacy, critical thinking/problem-solving, communication, creativity, and collaboration are being addressed in our approach.

In January 2020, Marshmallow Minds announced a new partnership with the Family Giving Tree(FGT). The FGT has been working with more than 200 Title-1 schools for the past 25 years through their Back To School Drive. This new partnership aims at bringing fun and exciting

Design Thinking inspired STEAM programs to several of these Title-1 schools.

In April 2020, Marshmallow Minds announced a new collaboration with San Francisco Bay Bird Observatory(SFBBO) teaching students' environment-focused problem-solving skills via STE(A)M. Through this partnership, SFBBO scientists are sharing well-researched information about the real-world issues birds face so Marshmallow Minds can continue to develop a set of design inspired STE(A)M curriculum for students in grades K-8 that gives them the chance to explore solutions to the environment, bird conservation, and watershed stewardship problems in their classrooms. As an extension of the learning experience, students will also be taking field trips to the Coyote Creek Field Station operated by SFBBO and interact with the bird scientists and observe their scientific research work in the field. Our Design Thinking based environment-focused STEAM education program will allow students to be sensitized to environmental challenges and opportunities in their own surroundings, engage in STEAM learning based on real scientific data, and build their creative problem-solving.

We will pilot this program by training 4 of our own teachers, who will then teach the module to K-5 students in one of the Title-1 partner schools in East San Jose. To experience hands-on Design Thinking and STEAM learning, the participating school will receive the necessary STEAM kits for the environment-focused STEAM education modules from the FGT. Classroom learning will be augmented with a field trip experience at the CCFS banding station where students will observe data collection, interface with SFBBO scientists, and gain a deeper appreciation of their local environment and the threats posed by development and climate change.

11. Describe key project deliverables and estimated completion dates.

Our work plan is to start engaging with the SFBBO team as early as the spring of 2020 and continue to seek curriculum consulting services from SFBBO until the spring of 2021. During this period, the SFBBO team will support our specialized STEAM curriculum developers to create age-appropriate, environment-focused STEAM education module drafts for students in K-8. During the summer of 2020, one of the STEAM modules prototyped around birds will be tested through Marshmallow Minds online summer program at a very small scale to understand the interest in the community and gain insights on how to innovate around this program.

During the fall and winter of 2020, our curriculum developers will create all the education modules for K-8, and 4 of our Marshmallow Minds teachers will be trained to participate in our pilot program scheduled for spring 2021.

During the fall and winter of 2020, FGT and Marshmallow Minds will engage with the Title-1 partner school based out of east San Jose and put together 360 STEAM kits for approximately 360 students in 15 different classrooms(K-5).

During the winter of 2020, the trained teachers will lead a pre-pilot run via online classroom sessions with a small group of K-5 children from the community to understand the effectiveness of the newly created curriculum and to further enhance the classroom experience before the pilot run in spring.

In the spring of 2021, the trained teachers from Marshmallow Minds will work with the partner school in east San Jose and teach the environment-focused STEAM education modules and lead the hands-on design activities in the classrooms. As part of the learning experience, students will visit CCFS for a field trip, with facilitation help from the SFBBO staff.

By the end of 2021, the newly created education modules will be made available online(via S'MORE STEAM) as video lessons for free.

There is a possibility that we may need to adjust schedules to accommodate any COVID-19 related impact in the community.

Mar 2020 to Mar 2021: Development of education module in collaboration with SFBBO.

Sept 2020 to Mar. 2021: Identify one Title-1 partner school(Elementary) and create STEAM Kits for the modules in partnership with FGT

Jan 2021 to Mar. 2021: Train 4 of our teachers for the pilot program and implement a pre-pilot run via online

Mar 2021 to June 2021: Teachers implement modules in-school/online(depending on COVID-19) and students visit CCFS as part of the field trip

July 2021 to Dec 2021: Convert the paper-based education modules into video-based lessons and make them available online via S'MORE STEAM for free.

12. Does this project require permission, permits, or other approvals? If so, please describe the status of these.

This project will require approval for field trips from the participating partner school. We will engage in the process of getting approval from the partner school in the fall of 2020 when schools re-open.

13. What is the lifetime of this project? If applicable, describe plans for operating and maintaining the project in the future.

After successful implementation of the pilot program in one Title-1 elementary school, the environment-focused STEAM education modules designed in collaboration with SFBBO will be implemented as part of the mainstream STEAM educational service offered by Marshmallow Minds to all our partner schools in the Bay area.

In order to expand the reach of the education modules and bring equity in access, Marshmallow Minds will be creating an online video-based teaching version of the education modules through our S'MORE STEAM program that will allow easy and free access to the modules for perpetuity. Schools and students can thus access the content and self-train without the need for more money for the classroom experience.

14. Describe the project's readiness for implementation.

Since the founding of Marshmallow Minds in 2016, we have created 80+ hours of K-8 STEAM curriculum and our trained teachers have been offering our educational services to thousands of students in public schools, to several teachers, and to volunteers in our community. We have many great connections with local schools. Our partnership with FGT allows us to expand our program to several Title-1 schools and agencies serving underserved communities.

Our curriculum developers are already engaged with SFBBO since the spring of 2020 and working together and brainstorming ideas for environment-focused STEAM education module drafts.

In spite of the school shutdown situation due to COVID-19, our online platform, S'MORE STEAM, allows us to continue to hold virtual classroom sessions for K-8 students and test the newly designed modules to gain insights on how to offer an innovative, hands-on design experience on this new topic.

We have strong support and commitment from our partners FGT and SFBBO who have been serving the community for several years. Together, we are a strong team and through this project, we hope to create a lasting impact on the lives of many children through our education program.

Project Budget (15 points)

15. Budget Summary - Grant Request

This is a budget summary only; a detailed Project Budget must be submitted using the Documents Upload tab. Please enter dollar amount. Note: after the application is submitted, the software will automatically add a TOTAL.

31000	Grant request: Personnel
3000	Grant request: Contracted Services
0	Grant request: Supplies / Materials
0	Grant request: Other Direct Costs
0	Grant request: Indirect Costs
34,000.00	TOTAL

16. Budget Summary - Matching Funds

This is a budget summary only; a detailed Project Budget must be submitted using the Documents Upload tab. Please enter dollar amount. Note: after the application is submitted, the software will automatically add a TOTAL.

9500	Total Matching Funds
9,500.00	TOTAL

17. Budget Narrative

Provide a brief budget narrative to explain the expenses listed in each of the budget categories (e.g. Personnel).

Personnel from Marshmallow Minds:

For successfully implementing this project, we need funds to support the following personnel from Marshmallow Minds: a curriculum developer, 2 teachers, 2 assistant teachers, an online video lesson producer, and a project manager to coordinate the entire project.

Our curriculum developer as part of designing and developing our STEAM lessons, blend art with science, technology, math, and engineering in the design thinking framework. Integrating curricula across different subject areas allows students to engage in relevant, meaningful activities that can be connected to real life. Because of our unique approach to curriculum designing, this is where a significant amount of our time and effort will be spent.

Our pilot program implementation in the classroom requires two of our staff to be present at all times in the classroom - a teacher and an assistant teacher who work together and ensure that the students are having a good hands-on learning experience. For this project, we will train 4 teachers to cover a total of 60 hours of the classroom sessions for K-5.

Once the pilot run is successfully executed in one of the Title-1 schools, we will convert the paper-based lesson module into a video-based lesson experience (similar model as Khan academy) as part of our S'MORE STEAM online program in order to enable access to our module for a wider audience around the world. This is part of our effort to bring equity in access to design thinking and STEAM education to all schools and students. For this effort, we will need to fund our online video lesson producer.

We will need a project manager to coordinate resources and schedules between our curriculum developers, SFBBO team, FGT, our partner school, our teachers, and volunteers.

Contracted Services from SFBBO:

Since the curriculum is being developed in collaboration with SFBBO, we will be receiving consulting services from SFBBO that will tie SFBBO work related to the environment, bird conservation, and watershed stewardship to our education modules.

As part of the classroom and field experience, we will receive teaching or demo services from SFBBO bird scientists in order for students to interact with the experts directly.

Project Goals (15 points)

18. Describe the specific problems, issues, or unserved needs the project will address.

As part of our commitment to preparing our partner schools for the 21st century, Design Thinking methodologies have been integrated into our STE(A)M curriculum. Design Thinking is a set of tools, methods, and processes by which students develop new answers to complex

problems. It challenges students to combine empathy, creativity, and rationality to create innovative and resourceful solutions.

By introducing students to different real-world problems in a design thinking framework and allowing them to apply STEAM hands-on learning, all the key 21st-century learning standards such as technology literacy, critical thinking/problem-solving, communication, creativity, and collaboration are being addressed.

Unique units of instruction are developed for each grade level, structured around the Design Thinking process that can be differentiated to meet the needs of all learners. Starting from Kindergarten, students learn the steps of Design Thinking that encourages all the aspects of a learner-focused classroom (opportunity for innovation, voice, choice, critical thinking, problem-solving).

There are thousands of students who should be experiencing Design Thinking and STEAM to enhance their hands-on learning.

In today's lifestyle, there is a disconnect between kids and nature, to their detriment psychologically and physically. (<https://www.bbc.com/news/science-environment-38094186>). Also, we have lots of environmental problems that need kids who can empathize and can use Design Thinking to solve in the future.

By introducing environment-focused topics into the Design Thinking framework and allowing children to problem-solve using STEAM kits will help students to become more aware of their own environment, feel the excitement of problem-solving while learning to work in groups and have fun! Learning the concept and application of Design Thinking can only improve students' prospects for the future.

Extending environment-focused STEAM classroom experience to outdoor learning experience with the help of field trips to Coyote Creek Field Station (SFBBO) will allow students to connect classroom learning with the real-world.

Our STEAM kit partner, Family Giving Tree has been working with Title-1 schools for the past 25 years and have more than 200 Title-1 schools with whom they engage. Through this project, environment-focused STEAM programs will reach the schools in the most needed regions of the Bay area.

19. How does this project serve the community?

These metrics are required for all projects. Project-specific metrics can be added under Question 20 below. Note: after the application is submitted, the software will automatically add a TOTAL that will not be used.

50/year	Number of people served
1200/year	Number of youth served (under 18 years)
year-round	Number of programs provided
0.00	TOTAL

20. In what other ways does the project serve the community? Please list the project-specific goals (both social and environmental).

Please list any additional goals and how they will be measured (e.g. surveys, field measurements, attendance sheets, etc.).

Marshmallow Minds is a K-8 STEAM education provider to public schools and communities.

Prior to the COVID-19 school lockdown, we were serving 2 public schools (K-5) totaling about 1200 students in Santa Clara county. Spring of 2021, we will be serving a Title-1 school in partnership with FGT. Through this Urban grant, we will create environment-focused STEAM education modules for K-8 in collaboration with SFBBO and bring awareness to our environment, bird conservation efforts, and watershed stewardship to all the students in our partner schools and our online communities year-round.

Through this project, allowing students from all backgrounds and diverse communities to experience both classroom and field education will open doors for radical collaboration and divergent thinking of environment-focused problem-solving among children.

Our project-specific goals are to:

Create environment-focused STEAM education modules for each grade level in collaboration with SFBBO

Train 4 teachers from Marshmallow Minds to teach our education modules

Partner with a Title-1 school and teach our education modules

Enable hands-on classroom learning experience with the help of STEAM kits from FGT

Augment classroom learning sessions with field trips by bringing students to the banding station to directly observe birds, bird conservation efforts and scientific data collection

Publish the education modules online as video lessons and make it freely accessible for perpetuity.

Impact (15 points)

21. Describe the lasting impact of the project.

We expect that following our pilot project, we will achieve the following deliverables:

1. In our approach, we empower students with the scientific knowledge and the creative confidence to solve hard real-world problems. So, instead of being passive learners, we are building active problem-solvers/solution designers.

2. Introducing children of all backgrounds from different communities to environment-focused design challenges and opportunities allows for divergent thinking and innovative problem-solving.
3. Free education module published online in the video format (available for use in perpetuity)
4. teachers trained and over 500+ students served in the pilot program

We expect that after our pilot program, we may get additional inquiries from schools and communities around the area.

With this framework in place, we plan to work with more partner schools in the future by securing more funding to support the program. However, because we will have developed the curriculum, we will no longer need financial support for that aspect of the project. We anticipate that future needs may include improving the delivery of the curriculum effectively either in-school or online as we continue to serve large numbers of teachers and students.

Community Engagement / Stakeholder Support (10 points)

22. Describe the community support and/or community engagement process.

Please submit letters using the Documents Upload tab.

Our STEAM education program currently engages dozens of teachers and volunteers, who together teach more than 1000 students annually in different partner schools and communities impacting hundreds of families by providing access to quality STEAM education.

This project will be a great opportunity to build on that engagement and connect students and families to environment-focused STEAM education and bird scientists at SFBBO.

Leadership & Innovation (10 points)

23. Describe how this project employs innovative approaches or encourages collaboration and partnerships.

If there are project partners, please upload partner letters on the Documents Upload tab.

One extremely innovative part of this project is that it gives children both the opportunity to learn about their environment in their classroom design projects and experience wild open spaces in an urban environment where they get to directly interact with wild animals -- birds in this case. All participating students are also introduced to the concept of citizen science: ordinary people contributing to a scientific study.

Another innovation is in our partnership with FGT who will be the STEAM kit provider to our Title-1 partner schools.

Our online program, S'MORE STEAM, certainly cannot replace the joy a child feels when seeing a bird up close. However, given the challenges of social distancing and distance learning that children are facing, and also to create equity in access to our education programs, we have implemented our online program, S'MORE STEAM, with innovative approaches to experience the highlights of the design thinking process such as empathy, bias to action, collaborating with others, learning from experts, etc in an online setup.

As part of this project, to gain more insights for innovative curriculum development, we are prototyping a very creative and experiential S'MORE STEAM summer camp around birds called "From Bird's Eye View" where children will participate in a unique, in-depth, interactive and hands-on exploration of birds that combines bird science with technology, engineering, art, math, storytelling, creative-coding, and yoga.

Organizational Capacity (15 points)

24. Briefly describe the organization and its ability to successfully implement this project. This might include successful past projects, key staff qualifications, financial resources, etc.

If the applicant is a Fiscal Sponsor, please describe both the Fiscal Sponsor and the sponsored organization.

Marshmallow Minds programs are funded by contracts, research grants, partnerships, and donors.

Marshmallow Minds has a very strong in-school Design Thinking and STEAM education program where 80+ education modules have been designed since the founding in 2016 and delivered to thousands of children in K-5 by our teachers in public schools.

We have great relationships with local schools and parent communities as a result of organizing parent education nights and other educational programs in local public schools.

Our online program and presence is growing since the launch of S'MORE STEAM in April 2020 with 100+ users (spread nationwide) of our online programs.

We have strong partnerships with other nonprofit organizations such as SFBBO and FGT and have been successfully working together leveraging each other's network and resources and furthering our impact in the community jointly.

Because we have a proven track record of successfully designing and delivering STEAM education programs to partner schools and communities, and we have the support of our partners, we are uniquely qualified to undertake this proposed project.

BONUS POINTS: Underserved Communities (10 points)

25. Describe how the project addresses open space needs for sensitive populations such as residents of park-poor neighborhoods, underserved or disadvantaged communities, youth, seniors, persons with disabilities, or is located within a Deep Engagement Community (DEC).

This question is optional; please answer if applicable, otherwise enter "N/A." A map of the DECs can be found by clicking on "Apply" at <https://www.openspaceauthority.org/urban>.

Two of the partner schools (Stonegate Elementary and Arbuckle Elementary) are Title-1 schools are located within a DEC. As part of the pilot program, we expect to work with teachers and students in one of these Title-1 schools whose students will come from that DEC.

We are extremely dedicated to teaching diverse communities as our mission is to bring equity in access to 21st century-ready Design Thinking and STEAM education to all schools and all students.

Our partners, FGT and SFBBO are also equally committed and dedicated to bringing this environment-focused STEAM education experience to diverse communities and underserved communities.

BONUS POINTS: Community Building (10 points)

26. Describe how this project actively encourages community building by engaging or accommodating local residents in novel and creative ways.

This question is optional; please answer if applicable, otherwise enter "N/A."

Birds have always drawn human attention since the dawn of time because of their beautiful colors, different sizes, and shapes, and their ability to fly, walk and swim! Birds have a special place in all cultures around the world. Thus, as part of this project, we are prototyping a very creative and experiential STEAM educational program around birds called "From Bird's Eye View" where children will participate in a unique, in-depth, interactive and hands-on exploration of birds and bird conservation that combines bird science with technology, engineering, art, math, storytelling, creative-coding (only for grades 6-8) and yoga!

This summer, we are testing the prototype "From Bird's Eye View" online to gain more insights on what works and what can be done better.

Where and when applicable, students will also participate in field trips to CCFS to experience the banding station. SFBBO banding station currently engages dozens of citizen scientists, who together band more than 6000 birds annually. This will be a great opportunity to build on that engagement and connect these scientists to local students.

BONUS POINTS: Climate Resilience (5 points)

27. How does this project enhance and/or raise awareness about climate resilience?

This question is optional; please answer if applicable, otherwise enter "N/A."

One of the topics we are exploring with SFBBO is the impact of climate change on birds and their habitats and what innovative climate resilience designs can be factored in urban city designs.

When we visited the CCFS, SFBBO scientists demonstrated the utility of Coyote Creek as a design for climate resilience that protects birds and their habitats from the impact of climate change such as unexpected flooding or drought.

Through this project, students have an opportunity to learn and empathize with the impact of climate change on birds and their habitats, explore new ways of designing cities that are resilient to climate changes and engineer prototypes of their designs to share with experts at SFBBO to receive meaningful feedback. Their field trip to CCFS as part of this project will further allow them to witness, connect with the topic of climate resilience, appreciate the design of Coyote Creek and recognize how well it serves its purpose.

Documents Upload [top](#)

Documents Requested *

Financial Statement

Project Budget

[download template](#)

Required? Attached Documents *

✓

[990 2019 Marshmallow Minds](#)

✓

[UGP Project Budget Marshmallow Minds](#)

[Fiscal Sponsorship Agreement](#)
[download template](#)

[Site Control Documentation](#)
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[CEQA Compliance Certification Form](#)
[download template](#)

[Letters of Support](#)

[Letter of Support from Family Giving Tree](#)

[Letter of Support from SFBBO](#)

[Project Partner Letters](#)

[Maps and Site Plans](#)

[Photographs](#)

[Pictures from camp\(June 2020\) - From Birds Eye View](#)

[Pictures from camp\(June 2020\) - Student interaction with bird scientists](#)

[Pictures from camp\(June 2020\) - STEAM principles of gliding](#)

[Overview of From Bird's Eye View program - a pre-pilot run of this project \(online due to covid-19\)](#)

[Other](#)

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