

# American Rescue Plan State Fiscal Recovery Fund Recommendation Cover Sheet

Please submit this document with any recommendations for funding from Rhode Island’s allocation of federal fiscal recovery funds available through the American Rescue Plan Act. This information will be made available to the public along with any detailed documents submitted that describe the proposal. It is encouraged that such documents identify clear goals and objectives and quantifiable metrics.

**This is not a formal request for funds, and submission of recommendations does not guarantee a response, public hearing, or appropriation from the General Assembly.**

**Name of Lead Agency:** Mystic Aquarium — RI STEM Advantage

**Additional agencies making recommendation (if applicable):** N/A

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**Brief Project Description** (attachments should contain details):

Expanding RI STEM Advantage

Mystic Aquarium, a 501(c)3 nonprofit organization based in Mystic, Connecticut, requests \$500,000 to fund a one-time expansion of its successful *RI STEM Advantage* program — a hands-on, multimedia STEM program that will combat COVID learning loss and social isolation for vulnerable youth in K - 12 from at least ten Rhode Island communities.

**Total request:** \$500,000

**One-time or Recurring Expense?** One-time

**ARPA Eligibility Category (check all that apply) – See link for further information**

<https://www.rilegislature.gov/commissions/arpa/commdocs/Treasury%20-%20Quick-Reference Guide.pdf>

- Respond to the public health emergency and its economic impacts     X
- Premium pay to eligible workers \_\_\_\_\_
- Government services/state revenue replacement \_\_\_\_\_
- Water/sewer/broadband infrastructure \_\_\_\_\_



# MYSTIC AQUARIUM

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January 6<sup>th</sup>, 2022

OFFICE OF THE PRESIDENT

Mystic Aquarium, a 501(c)3 nonprofit organization based in Mystic, Connecticut, requests \$500,000 to fund a one-time expansion of its successful *RI STEM Advantage* program. In 2021, *RI STEM Advantage* served more than 300 youth in Cranston, Providence, East Providence, North Providence, Pawtucket, and Central Falls. The expansion of this hands-on, multimedia STEM program will combat COVID learning loss and social isolation for more than 1,000 youth in the above-mentioned communities, as well as Warwick, Newport, Westerly, Woonsocket, and the Narragansett Tribe. Mystic Aquarium proudly supports Rhode Islanders in a multitude of ways including providing complimentary admission to Feinstein Jr. Scholars and EBT cardholders and their families, as well as providing grant-funded academic enrichment programs for RI youth in out-of-school time.

The goal of *RI STEM Advantage* is to close the opportunity gap for vulnerable youth in grades K–12 by providing STEM skills and experiences that are engaging and relevant to RI youth and educators in out-of-school time. Mystic Aquarium has worked with many partners to develop the program, including the Rhode Island Foundation, United Way of Rhode Island, Rhode Island Afterschool Network, Cranston Public Schools, U.S. Fish and Wildlife Service, Rhode Island Salt Pond Coalition, Brown University, and the Narragansett Tribe. *RI STEM Advantage* will also leverage other institutional partnerships, such as those with the Blackstone Valley Tourism Council and the Alan Shawn Feinstein Foundation.

*RI STEM Advantage* includes curriculum, digital resources, and supplies for youth to engage with peer mentors in fun, hands-on activities, group projects, and field experiences. Participating youth and their mentors work together in small groups to explore a variety of STEM topics and careers, with a focus on community-based environmental stewardship. Topics covered include renewable energy, watersheds, endangered species, and careers in STEM. Mystic Aquarium provides robust support for all sites in the form of in-person and online professional development and ongoing training and technical assistance.

All activities included in the *RI STEM Advantage* program are aligned with the Rhode Island Department of Education's K–12 educational framework. Each community participating in the program receives:

- Easy-to-use print materials and all-inclusive materials kits for conducting weekly sessions with youth and their mentors at community sites
- STEM enrichment and stewardship experiences for youth to explore Mystic Aquarium and local environs, including admission and transportation
- Opportunities for youth to interact with a diverse group of STEM professionals and role models
- Ongoing support and training for educators and mentors

The primary objectives for youth participating in the program are:

- An increase in their knowledge of and interest in STEM topics and careers
- An increase in their STEM, literacy, and social emotional learning skills

The expansion of *RI STEM Advantage* will leverage a more than \$3-million investment in the development of the program with existing public/private partnerships. The requested funds would be used to support community-based program customizations, curriculum materials and supplies, professional development, ongoing training and technical assistance, and STEM enrichment opportunities for Rhode Island youth.

Sincerely,

Stephen Coan, PhD  
President and CEO

The mission of Mystic Aquarium is to inspire people to care for and protect our ocean planet through conservation, education and research.



## **Mystic Aquarium Proposal to Sustain and Expand *RI STEM Advantage***

**Amount Requested from American Rescue Plan State Fiscal Recovery Fund: \$500,000**

**Proposed Use of Funds:** Funds received in response to this one-time request would be used to sustain and expand the implementation of Mystic Aquarium’s *RI STEM Advantage* program and would serve Rhode Island youth impacted by COVID 19-learning loss and social isolation. Funds would cover the cost of the hands-on, multimedia *RI STEM Advantage* curriculum, activity supply kits, field trips, and ongoing training and technical assistance to enable at least ten Rhode Island urban and rural communities — including Cranston, Providence, East Providence, North Providence, Pawtucket, Central Falls, Warwick, Newport, Westerly, Woonsocket, and the Narragansett Tribe — to serve vulnerable youth in grades K - 12.

**About Mystic Aquarium:** The mission of Mystic Aquarium, a 501(c)3 nonprofit organization, is to inspire people to care for and protect our ocean planet through conservation, education, and research. Since its opening in 1973, Mystic Aquarium has become one of America’s premier marine science research and education institutions, and has hosted more than 20 million visitors, provided direct educational programs for over 2 million children and adults, published over 150 scientific reports, and pioneered the care, display, and study of thousands of species of marine life. The Aquarium is one of the largest informal science education providers in New England, reaching over 100,000 students annually. Approximately 800,000 annual visitors explore the Aquarium’s 11 acres which are home to over 5,000 animals, including fish, invertebrates, reptiles, amphibians, marine mammals, and birds.

**Mystic Aquarium Serves Rhode Islanders:** Mystic Aquarium proudly serves Rhode Island residents through many types of programs, including academic enrichment opportunities, scholarships, internships, partnerships, and the Alan Shawn Feinstein Junior Scholars program. In 2021, more than 100,000 Rhode Islanders visited the Aquarium. To assist those who might be struggling financially, the Aquarium started a program five years ago that grants free admission to Rhode Island families (for up to five family members) who receive SNAP/EBT benefits; this program has grown in popularity each year. In 2018 — the first full year of the program, Mystic Aquarium covered the cost of 169 admissions; in 2021, the Aquarium granted more than 10,000 free admissions through the program. This past year was also the first year of the Aquarium’s *RI STEM Advantage* program, which served more than 300 vulnerable youth in six Rhode Island communities.

**Brief History of *RI STEM Advantage* Program:** Mystic Aquarium launched the *RI STEM Advantage* program in 2021 with support from partners including the Rhode Island Foundation, United Way of Rhode Island, Cranston Public Schools, U.S. Fish and Wildlife Service, Rhode Island Salt Pond Coalition, Northern and Southern Rhode Island Conservation Districts, Wood-Pawcatuck Watershed Association, Brown University, and the Narragansett Tribe. The program grew out of the Aquarium’s *STEM Mentoring* program, a nationwide program primarily funded by the Department of Justice’s Office of Juvenile Justice and Delinquency Prevention (OJJDP) that has been implemented at hundreds of sites in dozens of states and Puerto Rico since 2015. The Aquarium leveraged OJJDP’s multi-million-dollar investment in *STEM Mentoring* to expand more deeply into Rhode Island via *RI STEM Advantage*. Both programs connect youth to real-world STEM topics and career role models through interactive, multimedia curriculum modules. Youth learn about topics such as renewable energy, math in sports, water conservation, and engineering design as they work on fun, hands-on activities alongside their

mentors in small groups. The groups meet at least once a week for the duration of the program, which is implemented year-round. Participating youth also participate in a variety of STEM enrichment activities.

**Responding to the Public Health Emergency and Its Economic Impacts:** *RI STEM Advantage* serves some of Rhode Island's most vulnerable youth, including those from marginalized communities that have been disproportionately impacted by COVID-19. The program offers a safe space for families and promotes healthy relationships through its group mentoring model. *RI STEM Advantage* is free to participants and provides academic enrichment and environmental science field experiences for youth who struggle with educational disparities. Mystic Aquarium uses an equity framework to guide all content development as well as professional development for those implementing the program.

A Statewide Coordinator for *RI STEM Advantage* is based at Cranston Public Schools and coordinates the implementation of the program in communities across the state. In 2021, despite continual challenges associated with COVID-19, the flexible implementation model of *RI STEM Advantage* — which allows for content delivery via in-person, virtual, and hybrid formats — enabled six Rhode Island communities to provide high-quality STEM and environmental education for more than 300 youth.

In 2022, Mystic Aquarium is requesting an investment from the state of Rhode Island to reach even more youth with this valuable program to help combat the ongoing effects of the pandemic.

***RI STEM Advantage* Overall Goal:** The overall goal of *RI STEM Advantage* is to increase participants' understanding of and interest in STEM and STEM careers, develop their social emotional learning skills, and increase their understanding and stewardship of their local watershed and related ecosystems.

***RI STEM Advantage* Curricular Modules Implemented in 2021:** The COVID-19 pandemic affected how the *RI STEM Advantage* curricular modules were implemented in 2021 as well as the STEM enrichment activities for participating youth. Below are descriptions of the three modules implemented in 2021:

The first module — *Animal Heroes* — focused on endangered animals and was delivered virtually. All participating youth and their mentors received hands-on materials kits, and a Program Coordinator at each implementation site helped to coordinate weekly virtual sessions with mentee-mentor groups.

The second module — *World of Water* — focused on water conservation and was implemented primarily in-person with some virtual components. STEM enrichment activities and community stewardship components for participating youth and their mentors included field trips to Mystic Aquarium, career exploration pieces, citizen science activities, and aquatic field explorations.

The third module — *STEM Accelerator* — was designed specifically to address the needs of vulnerable youth who have been disproportionately impacted by COVID-19. It provided an integrated suite of social emotional learning and STEM activities to help participants regain social skills and master basic STEM concepts in a fun, educational context. This final module of 2021 included career exploration and hands-on STEM challenges and was implemented primarily in-person with some virtual components.

***RI STEM Advantage* Preliminary Evaluation Data:** In 2021, *RI STEM Advantage* served more than 300 youth from six Rhode Island communities. The following data were gathered from pre- and post-surveys completed by participating youth and their Program Coordinators:

- 87% of youth identified as Black, Indigenous, People of Color (BIPOC)
- 90% of youth attended Title I schools (an indicator of high poverty in the school communities)
- 70% of youth indicated an interest in STEM-related careers after participating in the program
- 81% of youth indicated they get along better with their peers after participating in the program
- 90% of youth indicated they care about their environment after participating in the program— an indicator of social emotional growth and increased empathy

A robust evaluation of the 2021 program is underway; the final report will draw from surveys, focus groups, and site observations. Additional data collection and analysis will continue in 2022.

***RI STEM Advantage Sustainability Plan for 2022 and Beyond:*** Despite pandemic-related challenges, Mystic Aquarium was able to secure some matching funds to help sustain the initial *RI STEM Advantage* implementation sites in 2022 while also cultivating several relationships which will help sustain and grow the initiative for in 2023 and beyond. For example, the Rhode Island Foundation has committed another \$135,000 to fund the *RI STEM Advantage* Statewide Coordinator position and staffing at each of the current implementation sites in 2022, with Cranston Public Schools acting as the fiscal sponsor. Additionally, Million Girl Moonshot has reached out to the Rhode Island Afterschool Network with an expansion grant opportunity to cover the cost of STEM enrichment opportunities to support the project.

Mystic Aquarium is committed to a robust sustainability plan, and a commitment of \$500,000 from the state of Rhode Island is essential to both sustaining and expanding *RI STEM Advantage* to reach even more youth in more Rhode Island communities in 2022. These funds would cover the costs of activity supplies, field trips, and professional development for the implementation of three in-person modules for spring, summer, and fall. In 2022, the Aquarium also plans to continue to cultivate existing and new strategic partners at the municipal, district, and state levels in order to secure funding to sustain the *RI STEM Advantage* program for at least the next five years.

***RI STEM Advantage in the News:***

***Cranston Herald:*** <https://cranstononline.com/stories/summer-of-stem-through-six-week-program-students-focus-on-fighting-pollution-finding-potential,164328> (see PDF attachment)

***The Newport Daily News:*** <https://www.newportri.com/story/news/local/2021/10/13/mystic-aquarium-providing-stem-experience-pell-elementary-school-newport-ri/6090591001> (see PDF attachment)

LOCAL

# Pell Elementary special education class learns STEM subjects through Mystic Aquarium program

**Bethany Brunelle-Raja** Newport Daily News

Published 5:05 a.m. ET Oct. 13, 2021

NEWPORT — A special education teacher at Pell Elementary School is working with the Mystic Aquarium to bring STEM (science, technology, engineering and math, education) subjects to her classroom.

The STEM Accelerator Program was created during the COVID pandemic in response to the learning loss that happened during that time. The aquarium has always had learning programs for students, but prior to the pandemic it was a mentorship program.

"We've been doing that model for years now and we normally do this through grant money. But in response to dollars that was flowing to address learning loss, we came up with the STEM Accelerator based off of that model," said Ayana Melvan, senior director of strategic partnerships at Mystic Aquarium.

Anyone can teach the program, Melvan said, not necessarily a formal teacher. The program is geared around the after-school model that's focused on social-emotional and hands-on learning because, during the pandemic, students were not able to be around their peers and positive adults outside of their families due to social distancing.

"There's two parts to our curriculum," Melvan said. "One part is largely about social-emotional learning, so there's a team-building aspect, building up team skills so you know how to problem solve with multiple people. There's also an independent component where you learn to work ... all on your own."

Part of the aquarium's mission is research, education and conservation to protect oceans. Melvan said distributing educational materials such as these into the public's hands can help create stewards of the land and water.

## **Finding a solution:** 'We're going to fix this': Pell School neighbors discuss flooding problems with engineers

"Our hope is that we can entice as many young people as possible into being interested in the field of STEM — science, technology, engineering and math — so that they can, in turn, become stewards of the water, stewards of the land, and help us continue our mission around that," she said.

## **STEM and special education**

The real-life and hands-on STEM instruction given to students is something that excites special educator Carla Jewell, who before finding out about the accelerator course has always worked to bring STEM instruction to her students because she believes in making education accessible to all.

"My students are part of the alternate assessment program, where they're considered significantly impaired, in that I have students who have autism, students who have intellectual impairments," she said. "Some of them are non-verbal, some of them are bi-lingual and learning English, so it's a big variety of skills."

For the past 18 years, Jewell has taught for Newport Public Schools, including 17 years in special education.

**At Rogers High School:** Could a new program at Rogers High School close learning gaps by addressing implicit bias?

"The students in the alternate assessment program have the biggest learning challenges out of everybody in the school, and I really like working really hard, targeting that whole student, so looking at language needs, functional life-skills, academics and finding the academics that will make their lives better and encourage them to keep trying their hardest," Jewell said. "Showing up to school every day and showing everybody that kids with all abilities have the ability to succeed."

Last year, Jewell said her director sent her information about the Mystic STEM program. After reading more about it, Jewell knew she wanted to establish it in her classroom and her director was able to find funding for it.

"When you think of the aquarium, obviously you think of aquatics and animals, but the program goes beyond just fish and beluga whales and all those exciting things," Jewell said.

"It's a hands-on STEM program. It covers some social, emotional and team building, and then it has hands-on activities."

The activities go through the STEM subjects. One is science-based, one is technology-based, one is engineering-based and the other is mathematics-based. The sessions are designed to be 30 minutes long.

**In Middletown:** Gaudet Middle School bathroom damaged in connection with TikTok #deviouslicks challenge

## Who can build the tallest tower?

Included in the program are training videos for the teacher and a big bucket of materials needed to instruct.

"Our first session is one of our team-building social and emotional sessions. It's called, 'Picture Yourself in STEM,' and it's going to have questions about what kind of jobs do you think you could do if you were a scientist working in STEM," Jewell said. "And then it has these big cards with all sorts of tools scientists might use. So anything you can think of, and it's for the students to think about what tools might be helpful for scientists."

For students in her classroom, Jewell said the visualization of this lesson is fantastic because the students who are non-verbal will be able to point and match certain pictures.

For the students learning English, it provides the opportunity for them to look at more sophisticated science tools and English words, she said.

**Fast learner:** Tiverton High freshman Ellery Pacheco is off and running with cross country team

"Once we do that, the following week we're going to do another science activity — 'Float Your Boat.' Mystic Aquarium provided big buckets and clay, so the students are going to be able to make different kinds of clay boats to see what style best will float in the water."

Some of the other projects students will be completing during this program are building towers out of cups to see how they can construct the tallest tower, and making a pipeline out of PVC pipes and a marble.

"There really has to be teamwork and team building and really getting the students to interact with each other," Jewell said. "Sometimes kids with autism are really happy just



interacting with the adult who works close with them, but this will really encourage the students to build a team together.

"We like to say in my classroom that our room is the school family, so we are really encouraging each other and working together. And especially in these COVID times, when we have to do our best to social distance and students don't get to see each other's faces fully with their masks on, the more opportunities I can provide to them for working together and thinking about real-life experiences is going to be really important to them."

Jewell said she's excited about starting this program and giving her students some additional hands-on STEM opportunities in her classroom.

"All of my students spend the majority of the day in the classroom with me, receiving really specialized, targeted instructions," she said. "We follow a different set of learning standards, then the state common core, called the dynamic learning maps essential elements, and it really takes the common core standards and it finds that big idea, that one life skill that you need to focus on."

**Stay in school:** Newport homeschool requests down, following trend of other area schools

The students do attend some science classes in general education classrooms, Jewell said, but having the opportunity to have this experience in their own classroom in a small group with special educators and paraprofessionals supporting them, and targeting their specific needs, is an enjoyable experience.

"I try to do at least one science experiment outside the Mystic STEM Accelerator at least once a week, to get them into that hands-on, scientific thinking," Jewell said. "Making predictions, was your prediction right? Following steps, following procedures, and they absolutely love it. All of that hands-on, real-life experience is really powerful, so I know that they are just going to have a blast with the STEM activities from Mystic."

The program came with enough materials for more than 30 students, so Jewell said she plans to share the extra materials with the special education classes at Thompson Middle School.

**More:** How are you going to pay for college? Newport County high schools are ready to help.

## **Every student belongs in public school**

Fifty years ago, Jewell said her students probably wouldn't have attended public schools, but such education facilities have come a long way to provide the support for every learner.

"I believe that every student belongs in public schools and together we can make public schools a place where every student can succeed as well," she said.

The STEM program from the Mystic Aquarium will help her students because it goes beyond teaching them the basics such as their addresses, and provides them with the possibilities of working at an aquarium, or in the science field.

"The students always have such amazing things that their brains can do, and we don't want the label of their disability to stop their potential as adults to be happy, healthy and independent," Jewell said "So I love providing these STEM activities for them to explore and get hands-on and say, 'I did this. I can make this. I don't have to just watch someone else do this, or watch it on a TV show. I can make this tower of cups that's as tall as I am.'"

Melvan, who also has a background in working with students with special needs, said when she heard a special education class is participating, she was excited.

"I was like, 'Yes! This is great!'" she said. "I think it gives these young people such an opportunity and access to things they might not normally have access to because of the traditional setting, the pressures on everyday teachers."

The program is an opportunity for them to explore science, technology, engineering and math, without feeling pressured that they have to meet a certain type of success, she said.

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