VERMONT
AGENCY OF EDUCATION

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2022 STEAM Challenge Grant Awards

The Vermont Agency of Education (AOE) launched the STEAM Challenge Grant to support the development of a coherent system of STEAM education, and to provide structures to develop and sustain STEAM programs that are aligned with state adopted standards, including those standards that may be currently under-addressed (e.g., arts, engineering, computer science, etc.). This grant was designed to assist supervisory unions/school districts (SUs/SDs) and the public schools and Career Technical Education centers they operate to complement and/or amplify their existing secondary school curricula by providing students an innovative learning opportunity to use STEAM learning principles to solve a problem within their communities or the state. The short-duration, competitive grant opportunity provided one-time funding of $150,000 for awards of no more than $25,000 per applicant. Applicants were asked to organize secondary student-educator teams within their school community to address a problem. Once a team identified a problem to solve, they were challenged to utilize a STEAM approach to come up with a solution. The team must specifically demonstrate that they applied and integrated the knowledge, skills, and practices of science, technology, engineering, arts, and mathematics and provide a plan for how they would present their solution to the public.

A total of $128,935 was awarded to nine SU/SDs. The following schools are recipients of the STEAM Challenge Grant awards: Barnet School, Central Vermont Career Center, Harwood Union Middle and High School, Mill River Union School, Main Street Middle School, Newark Street School, Patricia A. Hannaford Career Center, Randolph Union High School, and Williston Central School.

Barnet School, Caledonia Central Supervisory Union: $5,954

Grant funds will be used to address the problem of a lack of after-school programs for secondary students in the area of robotics, engineering, and coding. The student-educator team will investigate how to create local support for a sustainable First Lego League and provide students with the tools and skills to advocate for their needs. Work will revolve around student participation in a yearly science fair and utilizing Lego curriculum and materials to complete challenges that will be shared within the school community.

Central Vermont Career Center: $10,800

The student-educator team will address the problem of needed infrastructure in Vermont to adequately charge electric-powered vehicles. Grant funds will be used to research the problem of supplementing existing infrastructure and will include the equipment and materials needed to design, build, and test a portable solar EV charging station. The interdisciplinary team will include students from the electrical, digital media arts, automotive, and building trades programs.

Contact Information:

If you have questions about this document or would like additional information, please contact:

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Harwood Union Middle & High School, Harwood Union Unified School District: $2,650

Grant funds will be used to test an aquaponics system as one way to streamline agricultural production and eliminate waste. The student-educator team will design, fabricate, and operate a small-scale aquaponics system. Funds also will enable team research, including a fieldtrip to a hydroponics operation.

Mill River Union School, Mill River Union Unified School District: $10,235

The student-educator team will address the problem of outward migration of Vermont high school and college students leaving the state and not returning. The team will identify and explore solutions already proposed to solve Vermont's demographic crisis, evaluate existing solutions, and propose new solutions. Grant funds will be used for field trip expenses, STEAM curriculum, and equipment and tools needed for student entrepreneurship projects.

Main Street Middle School, Montpelier Roxbury Public Schools: $22,845

Grant funds will support a team of students and educators as they address the problem of increasing the capabilities of their Innovation Lab to identify products for student production to enable fundraising to support school and local community needs. The team will conduct product research and create prototypes to develop a model to bring these products to the table at an upcoming craft fair. Funds will be used to underwrite external consultancy on projects, the purchase and installation of equipment, tool training for teachers, and makerspace project lessons.

Newark Street School, Kingdom East School District: $21,721

The student-educator team will examine the problem of food security in the Northeast Kingdom. The team will research how a school-built and student-run greenhouse could provide local residents with access to fresh produce. Grant funds will be used to purchase construction materials, instructional equipment, and related supplies to build and operate the greenhouse.

Patricia A. Hannaford Career Center: $9,250

The student-educator team will address the problem of how to foster a collaborative approach to managing sustainable agricultural practices in a working landscape in which farmers, loggers, recreational visitors, and conservationist all have an interest. The team's efforts will focus on Wright Park, an area managed by the Middlebury Area Land Trust. Grant funds will be used for construction materials and equipment. The interdisciplinary team will include students from natural resource management; visual communications; and engineering and architecture classes.

Randolph Union High School, Orange Southwest School District: $25,000

Grant funds will be used to provide the supplies and equipment to improve the operation of a local elementary school's farm store. The student-educator team will address the problem of how to maximize use of the Braintree Blossom Farm Store. The Braintree Elementary store is a part of the school's farm to school initiative, but building limitations are constraining the store's capacity to serve the community. Students from the high school and technical center will work to solve the building limitations and will design, create, and implement a solution using STEAM integrated practices.

Williston Central School, Champlain Valley School District: $20,480

The student-educator team will explore solutions to the challenge of improving school climate. The team will research underlying causes for student behavioral challenges, reduced teacher morale and turnover, lower student participation in extracurricular activities, and lower parental involvement. The team will test solutions for developing a sense of belonging for the entire school community. Grant funds will be used for equipment and supplies to enable the team to produce new internal door signs for educators and student school "houses," multi-language welcoming signs, and year-end recognition objects to celebrate achievement.