



DARTMOUTH MONTSHIRE INSTITUTE FOR SCIENCE EDUCATION



PROJECT OVERVIEW

Connecting Classrooms and Community with the Health Sciences:
An outreach program in rural New England schools

Project Details	
Funder	Source: Science Education Partnership Award, National Center for Research Resources, NIH.
Lead Organization	Montshire Museum of Science
Outreach budget	--
Total project budget	\$777,000
Project dates	September 30, 2009 - September 29, 2014
Related Research Project	--

Principal Investigator

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Scientific Advisors

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Project Summary

In this five-year initiative, Montshire science educators and four Dartmouth Medical School (DMS) research teams will collaborate to create outreach programs for students in grades 5-8 located in rural Vermont and New Hampshire schools. Montshire educators will deliver programs reflecting topics of the DMS research teams.

Montshire's educators will also adapt the school-based programming to include special family activities and presentations for museum visitors.

The objectives of the project are to:

- ▶ Expose participants to the interesting and relevant research taking place locally, and create opportunities for participants to learn more about the relevant science and processes of doing research.
- ▶ Increase participants' understanding of the diversity of health science careers.
- ▶ Provide participants with information that will assist in making personal health decisions in the subject areas.
- ▶ Raise participants' awareness of the ways that culture and media affect their choices.

Project Abstract

Adolescents face many conflicting messages and influences related to high-risk behavior. Choices confronting middle school students often have the potential for adverse effects on their overall health and well being. Montshire Museum proposes to develop an educational outreach program to allow students an opportunity to learn about key health issues in a context that is based on high-quality research and offers hands-on inquiry and self-directed investigations.

The proposed educational outreach program will serve students in grades 5-8 in rural Vermont and New Hampshire schools. The project team will create four health education modules, each one related to current NIH-supported research by faculty at Dartmouth Medical School (DMS). DMS researchers will collaborate with Montshire Museum's science educators in developing the modules, connecting with students and teachers, and providing support for all aspects of the project. For each module, the project team will support hands-on classroom investigations and independent research using materials, objects and exhibits developed specifically for the program.

In addition, professional development institutes for middle school health and science educators will provide science content and instructional strategies needed to successfully implement health science lessons that are aligned with national and state standards for health and science education.

The curriculum materials developed for school-based programming also create opportunities for broader public outreach. Montshire's educators will adapt them for special family activities and presentations within the museum setting. The educational curriculum will be designed to provide all participants with information that will assist in making personal health decisions in the subject areas; raise participants' awareness of the ways that culture and media affect their choices; and expose participants to the interesting and relevant research taking place locally, while increasing their understanding of the diversity of health science careers and research processes.

A thorough process of formative and summative evaluation will enable the project team to take an iterative approach to curriculum development and to provide the best possible learning experience for participants.

Partner Schools

- ▶ Barnet Elementary School (K-8), Barnet, Vermont
- ▶ Central Vermont Catholic School (K-8), Barre, Vermont
- ▶ Cornish Elementary School (K-8), Cornish, New Hampshire
- ▶ Danville School (K-12), Danville, Vermont
- ▶ Deerfield Valley School (K-6), Wilmington, Vermont
- ▶ Haverhill Middle School (4-8), North Haverhill, New Hampshire
- ▶ Lebanon Junior High School (6-8), Lebanon, New Hampshire
- ▶ Mary Hogan Elementary School (K-5), Middlebury, Vermont
- ▶ Middletown Springs Elementary (K-6), Vermont
- ▶ Orleans Elementary School (K-6), Orleans, Vermont
- ▶ Richford Elementary School (K-8), Richford, Vermont
- ▶ Rivendell Academy Middle School (6-8), Orford, New Hampshire
- ▶ Rutland Town School (K-8), Town of Rutland, Vermont
- ▶ Tinmouth Elementary School (K-5), Tinmouth, Vermont
- ▶ Tunbridge Central School (K-8), Tunbridge, Vermont
- ▶ Walden School (K-8), Walden, Vermont
- ▶ Whitcomb Jr-Sr High School (7-12), Bethel, Vermont
- ▶ Whitingham Elementary School (K-6), Whitingham, Vermont

Project Findings and Annual Reports:

- ▶ NIH-SEPA Poster [pdf]
- ▶ MMS-SEPA Flyer [pdf]
- ▶ Interim Report 10/2011 [pdf]
- ▶ Interim Report 12/2012 [pdf]
- ▶ Evaluation Draft 7/2014 [pdf]
- ▶ Montshire Annual Progress Report Year 1 [pdf]
- ▶ Montshire Annual Progress Report Year 2 [pdf]
- ▶ Montshire Annual Progress Report Year 3 [pdf]
- ▶ Montshire Annual Progress Report Year 4 [pdf]
- ▶ Student Research Evaluation Data [pdf]
- ▶ Teacher Evaluation Findings [pdf]
- ▶ Student Scientists Learn about Energy Balance in Journal of Nutrition Education and Behavior [pdf]

Resources for Teachers

- ▶ [Investigations in Diet, Nutrition, and Activity teacher guide](#) [pdf]
- ▶ [Investigation in Diet, Nutrition, and Activity student hand-outs](#) [pdf]
- ▶ [Calorimeter Bonus Lab](#) [pdf]
- ▶ [Introduction to the Student Research Symposium](#) [pdf]