

## **Connecting with the Connecticut**

### **Project Summary:**

The **Connecting with the Connecticut** project involves grade five through eight students and teachers in real life hands on investigations of the outstanding local resource for scientific study shared by the three participating districts – the Connecticut River watershed.

Through their participation in this project, students will assume the role of real life watershed research scientist as they acquire a deep understanding of science and math standards and practice the Skills of Inquiry as outlined in the Massachusetts Science and Technology Curriculum Frameworks. Through the implementation of teacher designed curriculum in which Palm Pilots and probes are used to collect water quality data, students will collaborate with local scientists and educators from the Silvio Conte Anadromous Fish Research Center, the University of Massachusetts' Secondary Teacher Education Program, (STEP) and members of The Science, Technology, Engineering, and Mathematics Teacher Education Collaborative, (StemTEC). Together, students, teachers, and scientist will apply the findings of their data collection and research to bring greater authenticity and meaning to classroom curriculum learning.

This project will accomplish the goal of providing students with advanced science learning opportunities that are reinforced through the real world application of their acquired skill and knowledge. Teachers will demonstrate the effectiveness of high quality staff development in water chemistry, river history and geology and the Universal Design for Learning through their development and implementation of content rich Connecticut River watershed investigation units of study. The outcome of this project is that these well-supported technology enhanced units of scientific study will become established curriculum in each district, implemented annually, and will in turn prepare students for more advanced scientific study in grades nine through twelve.

### **Proposed Impact:**

At the end of the two-year grant period, a well-developed set of spiraled curriculum units will have been created and established as standard programs for implementation within each of the three participating partner districts. A minimum of 12 teachers will have acquired advanced knowledge and skill in addressing the Science and Technology standards through teaching their students about the Connecticut River watershed. Pathways for collaboration between local environmental groups and district teachers and students will have been established. Each district's superintendent (3), building principals (10), curriculum and technology coordinators (5), grades 5-8 teachers (12), will have participated in the implementation and dissemination activities of this project. The number of student participants during the first two years of the project is approximately 200 students from each district, 600 total.

### **Needs Assessment**

The results of a Technology Integration and Science Investigation survey completed by fifth through eighth grade teachers clearly indicates that this project will meet a significant need within the three partnering districts. Only 30% of teachers have scientific probes available in their school and have had training in their use.

- 89% of the teachers indicate a need for participating in a staff development program that would support the use of science probes in their classrooms.
- 100% of the teachers indicate they would be interested in participating in a staff development program that would support the study of the Connecticut River in their classroom.
- 0% of teachers are currently using PDAs as a teaching and/or learning tool in their classrooms.
- 71% of teachers would be interested in participating in a staff development program that would support the use of PDAs in their classroom.
- Only 14% of teachers have participated in staff development regarding curriculum development and Universal Design for Learning.

### **Conditions and Facilities**

The conditions and facilities that are in place and are available for the implementation of this project are as follows:

- A strong partnership has been formed among the three districts with a grant coordination team made up of a building principal, technology coordinator, and a tech integration/assistive technology specialist.
- The project development team has established collaborative agreements with several local environmental groups; the Silvio Conte Anadromous Fish Research Center, StemTEC and STEP, (Letters of support found in Appendix). These organizations have agreed to work directly with teachers and students to provide authentic direction and feedback during the development and implementation of the Connecting with the Connecticut units of study.
- The teacher participants of this project are strongly committed to its success. They each bring with them a wealth of knowledge and expertise in teaching science and mathematics. Together, they will form a powerful collaborative work group.
- The superintendent and principals from each district has enthusiastically endorsed this project.