

8/8/12 11:51 AM

***APPLICATION DEADLINE: Monday, March 12, 2012 at 5:00 pm**

Email to kathleen_sheehy@brookline.k12.ma.us

Mail or hand-deliver to BEF, 40 Webster Place, Brookline, MA 02445

BROOKLINE EDUCATION FOUNDATION
Collaborative Grant Application for 2012-2013 Academic Year
Cover Page

APPLICATION MUST BE TYPED

Project Title	Connecting Inquiry Science & Literacy: Talking, Writing & Reading as Tools of Science
Who is the Project Leader?	Janet MacNeil Vicki Milstein
Leader's School/Assignment	PreK-8 Science Coordinator Principal of Early Education Programs
Leader's Home Telephone Number	617.698.7013 (Janet) 781.828.1282 (Vicki)
Leader's Email Address	janet_macneil@brookline.k12.ma.us vicki_milstein@brookline.k12.ma.us
Years teaching in PSB, total years teaching	6 years in PSB (8 years teaching)-Janet 14 years in PSB (38 years teaching)-Vicki
Project period	June 2012 through March 2013
Amount requested	\$10,500

For participants please attach sheet with names, schools, assignments, and email addresses.

I understand that, should the Brookline Education Foundation fund this Collaborative Grant application, as Project Leader, I am obligated to submit a written evaluation of this project at its completion. Evaluations of projects will be due by May 31, 2013. I further understand that only educators employed by the Brookline Public Schools at the time the project is undertaken are eligible to receive funds.

Acknowledgement of Project Leader: Janet MacNeil

Date: 3/9/12

For online submissions, please acknowledge that you have read and agreed to the above statement. X

BROOKLINE EDUCATION FOUNDATION
Collaborative Grant Application for 2012-2013 Academic Year
Project Description Section

1. **Project Summary** (1-3 sentences)

In this Science & Literacy Institute, thirty one preK-2 teachers, special educators, ELL teachers, and librarians from all eight Brookline elementary schools will have the opportunity to learn how science inquiry and literacy (reading, writing & science talk) can be woven together to support more meaningful learning for all students (while achieving Brookline science and literacy learning goals). The institute will be led by the authors of *Science & Literacy—A Natural Fit* (Heinemann, 2009) and curriculum guides that will be used as part of the Brookline Science curriculum (Karen Worth, Jeff Winokur and Martha Winokur). Interested participants (including a 6th grade Science teacher and 7/8 Science teacher) will become facilitators of similar future trainings (working with the preK-8 Science coordinator) to be held in Brookline with in-house facilitators starting in the summer of 2013.

2. **Need**

a. Why is this project needed?

Over the past several years, the Brookline preK-8 Science curriculum has begun a wave of revisions that include a focus on inquiry, science notebooks, science talk, and integration with other curriculum areas. In the mean time, the new Massachusetts ELA Framework and the Brookline Literacy Initiative have identified a need to weave science inquiry and literacy instruction together. This includes new requirements for reading and writing in science, as well as verbally communicating scientific ideas effectively. These strategies will also help us make effective use of instructional time in the classroom (e.g., reading science nonfiction books that match the curriculum during literacy time, etc.)

b. What is the relationship of this project to the Core Values of the PSB? (*High Achievement for All, Excellence in Teaching, Collaboration, Respect for Human Differences, and Educational Equity*)

This project meets several of the PSB Core Values:

- High Achievement for All – The institute will focus on providing science inquiry instruction (supported by literacy) that is accessible for all learners. Strategies for modifications in science and literacy will be provided throughout the summer workshop, and the focus of the January callback meeting will be differentiating for all learners. In addition, science notebooks (a valuable assessment tool to gather evidence of student learning that can be used to inform instruction) are a major focus of the institute. Two ELL teachers as well as a special educator are part of the collaborative grant team.
- Excellence in Teaching – This professional development opportunity will provide hands-on experience in the basics of state of the art inquiry science and literacy instruction. More specifically, we will learn how to use these strategies to teach the preK-2 Science curriculum in Brookline and meet the Literacy Initiative objectives (based on use of *The Continuum of Literacy Learning* by Fontas and Pinnell).
- Collaboration – The collaborative group participating in this grant includes: 4 preK teachers, 8 kindergarten teachers, 7 first grade teachers, 6 second grade teachers, 1 sixth grade Science teacher, 1 7/8 Science teacher, 1 special educator, 3 ELL teachers and 2 librarians. These participants represent all 8 schools. Bringing this diverse group of educators together to learn

about science inquiry and literacy will spark systemwide collaboration and sharing of ideas and resources (not only by grade level, but vertically across grade levels). In addition, teams of teachers (and in some cases librarians) from individual schools are looking forward to the opportunity to learn and apply their learning together.

- Educational Equity – Research shows that the use of science inquiry, science notebooks, and science talk can effectively increase student understanding in science, as well as improve literacy skills for all learners. Therefore, the learning that we gain during this institute will have an impact on teaching and learning districtwide for all students in science and literacy.

3. Personnel

a. Who in the Brookline Schools is responsible and accountable for project activities?

Janet MacNeil and Vicki Milstein will be responsible for overseeing the project. They will meet with the consultants to finalize the agenda, and plan/facilitate the summer institute days and callback meetings. A key part of this work will be ensuring that all of the learning is directly applicable to Science and ELA in Brookline. In addition, Janet will be responsible for giving an overview of Brookline Science goals during the summer institute.

b. Will the project require additional personnel or reassignment of current staff?

No.

4. Goal Statement

What are the explicit goals for the project? What would be the best outcome for the work being proposed?

The goals of the Connecting Science Inquiry & Literacy Institute are to:

- Provide participants with the background and tools they need to connect inquiry science and literacy via reading, writing & science talk (using the curriculum that they teach).
- Model how science inquiry and literacy can be used to support the Brookline Science Learning Expectations, as well as the Brookline Literacy Initiative and ELA Learning Expectations. For instance, books that match *The Continuum of Literacy Learning* for each grade level will be featured in the institute and teachers will be given strategies for how to use them.
- Give participants a chance apply their learning in the classroom, look at student work, and use their observations to inform instruction. During the summer portion of the institute, we will learn about: the foundations of science inquiry and literacy (Day 1), interactive read-aloud and science talk to build science knowledge (Day 2), and recording/writing in Science (Day 3). (See attached agenda.) Participants will then be given an assignment for the first callback meeting in November that will ask them to apply what they have learned in their classrooms (i.e., practice facilitating science talks with their students). At the callback meeting, participants will share their experiences and get feedback on how to improve science talks. Participants will be given subsequent assignments related to science notebooks and modifications for all learners to share at future callback meetings. In this way, we will have the opportunity to apply what we have learned, share and discuss with colleagues, and get feedback from experts on questions/problems we may have.
- Build in-house science & literacy professional development capacity that can be used to provide similar learning opportunities for preK-2, 3-5 and 6-8 teachers in the future. Future institutes for grades 3-5 and 6-8 teachers will include the same basic topics (which are overarching goals/focus areas for preK-8 science and literacy): foundations of science inquiry and literacy,

reading and science talk, and recording/writing. However, the content will be modified to focus on age-appropriate skills, and the grades 3-5 and 6-8 Brookline curriculum. For instance, for teachers of older students, there will be more detailed expectations for science notebook entries and writing in science.

After the institute is completed, Janet, Vicki, Melissa London (6th grade Science teacher), Mark Goldner (7/8 Science teacher) and interested participants (especially those who have already been working on the preK-8 Science Team, such as Min-Jen Wu Taylor, Laura Richardson, and Amy Winnick) will meet to plan how we can provide the institute ourselves in the future (for preK-2 teachers as well as 3-5 teachers and 6-8 teachers). In this way, we will build in-house capacity for teachers to become science/literacy facilitators and become self-sufficient at providing the science/literacy instruction that is needed systemwide.

We predict that the institute (and future institutes) will have widespread impact on student achievement in reading, writing, and verbal communication as well as science. By connecting literacy instruction to science content and providing students with engaging opportunities to read, write and talk about science, learning will be much more meaningful and productive.

5. Context

a. What experiences or needs have led you to apply for this grant?

Last year, two preK teachers (Min-Jen Wu Taylor and Jessica Colby) were able to attend the National Science Teachers Association (NSTA) national conference in San Francisco under a BEF grant. Janet MacNeil (preK-8 Science Coordinator) also attended the conference. She and Min-Jen attended an early childhood science workshop presented by Karen Worth and Jeff Winokur. (Prior to that time, Janet had been using Karen and Jeff's books and curriculum as part of the preK-8 science curriculum work in Brookline.) As a result of the NSTA workshop and subsequent conversations, we developed a personal relationship with Jeff and Karen (who is Brookline's Wheelock 1st Grade Intern Coordinator). Vicki Milstein and Janet invited Karen and Jeff to Brookline last spring to join our preK-2 science curriculum planning work, beginning a very productive partnership.

In the mean time, Amy Winnick (a 1st grade teacher at Baker) attended a science and literacy workshop last summer led by Karen Worth, Jeff Winokur and Martha Winokur. The workshop was offered through EDCO and DESE. Amy, who is on the Brookline preK-8 Science Team, shared her feedback about the workshop, which had significant impact on her science & literacy teaching this year, with Janet. As a result, Vicki, Min-Jen, Amy, and Janet became excited about the possibility of offering a similar course in Brookline, focusing on our specific Science and ELA learning goals. We put a call out to find out who else would like to join us on this grant proposal.

At this time, there is widespread interest in connecting science with literacy via the Brookline science curriculum and many preK-2 teachers wanted to collaborate on this grant proposal. (In fact, due to space limitations, we could not include all interested teachers in this proposal.) We want to learn about the professional development/tools we need to effectively integrate Science and ELA. This institute will give us a concrete opportunity to see how science inquiry and literacy can support each other.

b. How have the education, training, and/or classroom experiences of the applicants or participants prompted the interest or need for this project?

In addition to the information provided above, several of the grant participants are members of the Brookline Systemwide Literacy Team (Vicki Milstein and Janet MacNeil) and Brookline School-based Literacy Teams (Jennifer Doubilet, Kris Frye, Teresa Gallo-Toth, Emily Redburn, Min-Jen Wu Taylor,

and Amy Winnick). The institute will provide these teachers with invaluable learning that they can, in turn, share with their literacy teams and school colleagues (all in support of science and Brookline's Literacy Initiative).

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6. Project Description

Describe the structure of this grant: what is your time frame, when and where will you be working, with whom will you work. You may include copies of supporting material (e.g., conference brochure).

The Inquiry Science & Literacy Institute will be held 3 days in June 2012 (June 19-21)—these are the only days that our consultants are available. There will also be three 2-hour after school call-back meetings during the 2012/2013 school year. The workshops will be held in Brookline. The institute will be led by the authors of *Science & Literacy—A Natural Fit* (Heinemann, 2009) and curriculum guides that will be used as part of the Brookline Science curriculum (Karen Worth, Jeff Winokur and Martha Winokur). These consultants (affiliated with EDC and Wheelock) are national leaders in science/literacy education.

A draft agenda of the workshop, which will be tailored to Brookline's Science and ELA learning expectations and curriculum, is attached. The agenda was created with input from the preK-8 ELA Coordinator (Patricia Kinsella).

Project participants include:

Bethany Bergeron (K-Devotion)	Lauren Kelly (K-Devotion)
Nicole Brandl (2 nd -Baker)	Melissa London (6 th -Pierce)
Nicole Zagami Chasse (K-Devotion)	Marie Lemay (2 nd -Lawrence)
Jin Yu Chen (ELL teacher)	Annie Mortara (1 st -Lincoln)
Jessica Colby (preK-Pierce)	Meghan Naseck (2 nd -Baker)
Sarah Conroy (K-Heath)	Tanya Paris (K-Runkle)
Chari Dalsheim (2 nd -Heath)	Julia Peck (2 nd -Devotion)
Eowyn Daly (K-Pierce)	Carolyn DiPierro (ELL-Devotion)
Deanne Dixon (1 st -Runkle)	Emily Redburn (1 st -Heath)
Jen Doubilet (2 nd Driscoll)	Laura Richardson (1 st -Baker)
Paula Ewenstein (Librarian-Baker)	Cathy Stahl (Spec Ed.-Runkle)
Kris Frye (K-Lawrence)	Yaping Tang (ELL Pierce)
Teresa Gallo-Toth (Librarian-Runkle)	Min-Jen Wu Taylor (preK-Heath)
Mark Goldner (7/8 Science-Heath)	Marybeth Thornton (preK-Driscoll)
Jeri Hammond (1 st -Driscoll)	Matthew Wilkinson (preK-Driscoll)
Kristen Haynes (K-Runkle)	Amy Winnick (1 st -Baker)
Dominique Herard (1 st -Pierce)	

7. Impact

Describe as specifically as possible the impact of the work you propose:

- On Yourself - How do you expect this project will change you as an educator? How might this work impact future professional activities?

We expect that what we learn during the institute will give us concrete ideas and strategies on how to teach using inquiry science, as well as how to support science with ELA (reading, writing and talk). As such, it will help us provide learning opportunities for all our students that match the Brookline

curriculum in two content areas. We will also be able to share what we learn with others on our grade-level teams and will have a common background knowledge as we continue to learn more in the future.

- On Your Colleagues - What impact will your project have on your professional community either directly or indirectly?

The institute will allow us to collaborate systemwide across grade levels as we learn about inquiry and literacy together (in support of new science and ELA curriculum changes). For instance, we will be able to share science notebooks and get an idea of what student work in notebooks can look like from preK-2. This will foster discussions on what evidence notebooks can give us of student learning.

In addition, we will be able to learn in school teams and, in turn, will be able to share our learning with our colleagues next year.

- On Your Students - How will your students benefit from this project in the short or long term?

As a result of the learning we will receive during the institute, we expect that the learning experiences we provide to our students will be richer. We will be able to tie science and ELA together in a meaningful way using materials that match both curriculum areas. In addition, we will encourage our students to discuss their scientific ideas and findings in a respectful fashion during science talks—allowing them to make meaning for themselves (with our role as facilitators of their learning). Our use of science notebooks will allow all students to make their thinking visible, allowing us to see clearly what their misconceptions are (and inform instruction accordingly).

8. Evaluation and Dissemination

How will you evaluate the success of the project? For example, will you create a before and after study, conduct a survey, collect and examine work products, engage in peer observation, write personal reflections, solicit feedback from colleagues and/or parents, or design some other form of evaluation of your project?

The project's effectiveness will be measured in several ways:

- Survey data will be gathered from participants to assess the effectiveness of the institute in meeting their needs. Information will also be collected on how to improve further workshops.
- Each participant will write a reflection on what they learned, how the learning has changed their practice and benefited their students, and what further professional development they think is appropriate.

The impact of the institute on students will be measured in the following manner:

- Participants will collect before and after “snapshots” of their students’ science notebooks. Copies of pages from student notebook pages at the end of this year will be compared with pages of student notebook pages at the end of the 2012/2013 school year. These samples of student work will be assessed using the common preK-2 science notebook assessment rubric and compared to see what changes in student work have occurred due to changes in instruction (based on what was learned in the institute).
- Participants will also share resources that they have created, as part of the institute, to make modifications for all learners. Samples of student work created using these modifications will be shared as well (and assessed using common rubrics).

9. Multi-year projects

If this application is part of a multi-year project, please put this application in context.

- a. How does this year build on what was accomplished in preceding years?

- b. What are the plans and anticipated budget for future years?

Administrative Approval

Collaborative Grants should be aligned with Systemwide Goals (and curricular frameworks and learning expectations, where appropriate) and be approved by a principal, headmaster, or curriculum coordinator.

I have read this application and find that it is suitable and consistent with Systemwide and Curricular Goals.

Date: 3/9/12

Print Name & Title: Janet MacNeil, PreK-8 Science Coordinator

BROOKLINE EDUCATION FOUNDATION
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 Budget and Finances Section

Please provide a detailed budget. Be as specific as possible.

Expense	Purpose	Cost
Consultants: Karen Worth, Jeff Winokur, Martha Winokur	Institute planning, creation and facilitation	\$10,500
TOTAL		\$10,500

Finances

a. Will there be additional funding from other sources? Please describe.

No.

b. Are resources needed to continue the work of the project after BEF funding ends? If yes, please describe how these resources will be obtained. If no, please describe how the work of the project will be funded or continued after completion of funding by the Brookline Education Foundation.

For additional phases of this work, we will use in-house facilitators (who have attended this summer institute) to offer additional summer workshops funded by Teaching and Learning as part of the PreK-8 science inquiry professional development plan. This work will be organized and facilitated by Janet MacNeil.

c. Do you foresee any potential challenges/obstacles and, if so, what is your strategy for dealing with them should they occur?

We do not foresee any potential challenges/obstacles.

d. Will you be able to complete the project if only partial funding is available? Yes No

If only partial funding is available, would you be able to redesign the project? Yes No

Please explain: The success of this institute hinges on hiring Karen Worth, Jeff Winokur and Martha Winokur. We worked with them to make sure that their fees are as minimal as possible. For instance, they will all be involved in planning the institute, but, to minimize costs, only two of them will be facilitating each day of the institute.