K6 Science Teacher Program

From 2008-2012 the MU QuEST program served over 150 teachers and thousands of students from throughout the state of Missouri.

QuEST is currently seeking district partners for an exciting new opportunity funded by the National Science Foundation. We will be conducting research on the efficacy of our professional development model over a three-year cycle.

QuEST aims to enhance teachers’ knowledge of physical science and teaching strategies in line with the Next Generation Science Standards.

The program will target:

- 2014-2015: 3rd grade — Magnetic Forces & Interactions
- 2015-2016: 4th grade — Electricity & Energy
- 2016-2017: 5th grade — Properties of Matter

The pedagogical focus of the program includes the 5E Learning Cycle, formative assessment, and Universal Design for Learning in order to support the success of all students in science.

“QUEST has given me the confidence that I could teach in a way that is meaningful to students....”

- Ann, QuEST Alumni

“Being able to learn the subject through hands on activities was very meaningful and worth every minute of my time...”

- Maria, QuEST Alumni
**School Districts**

**Q: Which schools can participate?**
A: Districts are asked to identify groups of three schools which will be assigned to 3 different experimental groups (see sidebar next page).

**Q: What is the commitment?**
A: Districts are asked to support data collection activities in both participating and non-participating schools in order to study the impacts of the program on teachers and students.

**Q: What are the costs?**
A: There is NO COST to the district for this professional development.

**Teachers**

**Q: Who can participate?**
A: Teams of two teachers (3rd, 4th, and 5th grade in respective years) from participating schools in partner districts

**Q: What is the commitment?**
A: *Participating teachers attend a two week summer institute in July, as well as four Saturday follow-up PD sessions during the academic year. Teachers will be asked to administer classroom assessments to their students (pre-post) during the academic year.

**Q: What are the benefits?**
A: *Participating teachers receive housing, meals, mileage reimbursement, parking fees, and a stipend for PD hours completed ($2500 summer/ $1000 academic year). In addition, teachers are provided with books and equipment for use in their classrooms.

*Teachers from comparison group schools will not participate in the PD, but will be provided a stipend and invited to attend a two-day summer institute following their year of participating in data collection activities.

**Don’t take our word for it...**

*I feel less alone and that's important to me in this profession. I like being part of a learning community. Thanks for making this possible for us!*

-Cheryl, QuEST Alumni

*I never remember science being all that exciting when I was in school. I would always get a set of directions to follow to get the results that my teacher was looking for. QUEST changed the way I thought about Science class. I wasn’t so interested in my students getting the “right results”, but instead having them understand why they got the results that they did. Students are guided to discover key concepts on their own, which makes their understanding more meaningful. QUEST creates teachers that are confident in their learning so they can in turn be confident in their teaching.*

-Betsy, QuEST Alumni
Researching the Efficacy of the QuEST PD Model

The National Science Foundation is interested in evidence of the way in which QuEST impacts teacher learning, and the learning of their students.

Participating schools will be assigned to one of three groups:

**Experimental Group 1**
QuEST 2-week summer PD experience with teaching students in Week 2; academic year follow-up sessions

**Experimental Group 2**
QuEST 2-week summer PD without a teaching experience in Week 2; academic year follow-up sessions

**Comparison Group**
No PD during treatment; two day summer institute and stipend/resources provided free of cost the following year to teachers in this group who participate in data collection activities

**QuEST’s PD Model**

Often teachers attend summer workshops, then are challenged to figure out how to apply what they learn months later when they return to their classrooms. Just as an important part of learning to drive involves actually getting behind the wheel, QuEST believes that learning to teach should involve practice teaching! In this way, teachers develop expertise in new teaching strategies in order to be ready to use these in their own classrooms.

In Week One of our summer institute, teachers get to take the role of learner—developing an understanding of physical science as well as new pedagogical methods.

In Week Two, participants return to the role of teacher—working with local students to plan and implement lessons that reflect what they learned in Week One. Teachers work collaboratively to instruct a half-day science camp, as well as to use assessment information to modify and refine their plans daily.
High Quality PD

Quality Staff

QuEST staff include experts in elementary science and special education, and physics. All institute facilitators are current or former classroom teachers!

Quality Learning Experiences

QuEST participants have consistently rated their satisfaction with the program at the highest levels. The program was recently featured in NSTA’s *Exemplary Science Programs: Best Practices in Professional Development*. As shown below, the majority of teachers indicate they learn much in QuEST than in other PD programs!

![Graph showing QuEST participants' evaluations of the amount they learned in comparison to other PD programs.](image-url)