MISSOURI BOTANICAL GARDEN
green for 150 YEARS 1859–2009

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GARDEN, SCIENCE CENTER AND ZOO'S SUCCESSFUL 'SCIENCE ALLIANCE' PARTNERSHIP EXTENDED
The Boeing Company Charitable Trust Funds Program at Mullanphy ILC Elementary School Through August 2010

(ST. LOUIS): **Science Alliance**, a joint educational partnership of the Missouri Botanical Garden, Saint Louis Science Center and Saint Louis Zoo, has received funding from The Boeing Company Charitable Trust to extend its reach through August 2010. The program, which aims to elevate teaching excellence and student achievement in science, has been in place at Mullanphy ILC Elementary, a St. Louis Public School magnet facility, since the spring of 2008.

The Science Alliance is unique both in its three-fold partnership of St. Louis-area cultural institutions and in the three-fold beneficiaries of the school it serves: not just the students, but also their teachers and parents. Science Alliance program partners work on site with Mullanphy classroom teachers throughout the school year, providing curriculum assistance, instructional materials, ongoing teacher training, hands-on student lessons and regular field trips, all at no cost to the school. Six family Science Nights over the school year held both at the school and at the three participating institutions allow parents to join their children in engaging science activities.

"This program has been far and away the best we've ever had," said Ken Blanton, principal of Mullanphy ILC. "Our partners are just wonderful. Their understanding of urban education and the issues faced by many of our families has been very beneficial."

The Science Alliance formed in the spring of 2008. The program was implemented at Mullanphy during the 2008-2009 school year and is continuing during the 2009-2010 school year.

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ADD ONE: Science Alliance

Intensive teacher training workshops have been held the past two summers. Garden, Science Center, and Zoo educators collaborate with the teachers throughout the school year, providing formal and informal training and assistance to improve science curriculum and teaching techniques. Once a month, the Science Alliance educators visit each of the school's pre-kindergarten through fifth grade classrooms, rotating grade levels between them every two months. In its first year, the educators led the instruction of each class, giving teachers an opportunity to learn from example how to incorporate hands-on, interactive explorations in their lessons. This school year, the teachers are taking the lead on instruction, with assistance from the institutions in the form of materials and content review. Field trips continue to be integrated into the curriculum, with each class visiting all three institutions over the course of the school year.

Since the program's inception, testing has shown a significant increase in both teacher and student content knowledge. Notably, scores on the state standardized science MAP (Missouri Assessment Program) tests have shown a marked improvement over the past year. In the spring of 2008, 29-percent of Mullanphy fifth-grade students scored at the "adequate" or "advanced" levels of the science MAP (compared to an average of ten-percent of students at ten comparison schools). In the spring of 2009, 43-percent of Mullanphy fifth-graders scored at these levels, an increase of 14-percent—reflecting improvement in science performance. This is compared to an average increase of three-percent at the comparison schools.

Teachers have demonstrated measurable improvements in good classroom practices, such as a greater focus on student-centered work, group work and inquiry-based science. For example, a recent fourth-grade class was studying thermal regulation in animals, or how animals change their body temperature through movement. Instead of a traditional textbook lesson, the class ventured outdoors to their own schoolyard to observe and investigate where specific animals could live, learning from a real-life standpoint.

"This year was much more fun," said a fifth-grade student at the end of the program's first year. "The textbook work is still useful, but minds are more open when you're actually doing something. Sometimes a balance is good, to balance the experiments with textbook reading."

"As a former medical researcher at Washington University and Saint Louis University, I have a huge amount of content area knowledge, but I was struggling with how to present knowledge/experience to my students in a more engaging way," said Katja Kopp, a fifth-grade teacher at Mullanphy. "Last summer, I attended a week-long workshop on inquiry that…the Science

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ADD TWO: Science Alliance

Alliance team presented/facilitated. The experience freed me up to be more creative…in my lesson plan designs."

Classroom observations also indicate a rise in student engagement.

"When our Garden representatives enter the classroom, we are greeted as if we are 'rock stars,'" said Tracie Cain, Manager of School Services at the Missouri Botanical Garden and Science Alliance coordinator. "The students are genuinely excited to have us in the classroom, and it is very rewarding to see such positive attitudes toward learning."

Community involvement is also on the rise. Previously, participation at school-run Science Nights averaged about 100 individuals. In collaboration with the Science Alliance program, bringing half of the events to the three cultural institutions, participation has nearly tripled, with two nights hosting over 500 attendees at each.

Program partners hope that the pilot in place at Mullanphy will serve as a model that can be replicated and expanded through the St. Louis area in the future.

For more information about the Science Alliance, contact Tracie Cain at (314) 577-5147.

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NOTE: Digital color images available by request. Download media materials at www.mobot.org/press.

The Missouri Botanical Garden's mission is "to discover and share knowledge about plants and their environment, in order to preserve and enrich life."

The Saint Louis Science Center's mission is "to stimulate interest in and understanding of science and technology throughout the community."

The Saint Louis Zoo's mission is "to conserve animals and their habitats through animal management, research, recreation, and educational programs that encourage the support and enrich the experience of the public."

Boeing's support of the Science Alliance is part of the company's overall financial commitment to education in St. Louis. In 2008, Boeing invested $13 million in education-related institutions and initiatives in the St. Louis area, in addition to its support of employees through the Learning Together Program.