

## Science: It's Elementary

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### *Talking Points*

- In today's global economy, Pennsylvania is no longer just competing against states like Ohio, Michigan and North Carolina. Instead our graduates must compete with the very best students from China, Singapore, India and Europe.
- By the time today's elementary school students graduate from high school, science and math fields will be growing at twice the rate of all Pennsylvania jobs. Science: It's Elementary treats our students like scientists in the classroom so that they grow into the next generation of innovators and entrepreneurs.
- We know what works in transforming science education in our elementary schools. A group of 48 school districts in Southwestern Pennsylvania working with Bayer Foundation-funded ASSET, Inc., are leading the world in science. It's time to share the strategies that are working so well for them with the rest of the Commonwealth's elementary schools.
- Governor Rendell's 2006-07 Budget launches Science: It's Elementary with \$10 million to upgrade science education in up to 150 elementary schools. This initiative replicates the successful ASSET strategies throughout the rest of the state.
- Science will be fundamentally different in these schools:
  - Teachers will have access to state-of-the-art, research-based curriculum.
  - Students will spend their time *doing* – not just listening – by engaging in hands-on experiments throughout the school year.
  - Teachers and administrators will receive proven, intensive training in how to transform their teaching to help students learn more.
- Among the many reasons that school districts will want to participate is that beginning in 2007-08, students in the 4<sup>th</sup>, 8<sup>th</sup> and 11<sup>th</sup> grades will be required to take a new state science test required by No Child Left Behind. The research shows that elementary students who receive science education from teachers trained in these strategies are more likely to do well on the state assessment.
- But the most important reason is that our students deserve the very best science education in the world – and that's exactly what Science: It's Elementary delivers.

## ***Frequently Asked Questions***

### **How do we know that this program will work?**

Science: It's Elementary uses the same strategies already at work through the Bayer Foundation-funded Asset, Inc., project in Southwestern Pennsylvania – which is serving 48 school districts, charter schools and private schools. Here are some of the results that Asset has achieved over the last several years:

- Participating students outperformed their peers throughout the United States and around the world on 4th through 7th grade science tests;
- 5th graders who were taught using this hands-on approach scored as well as 7th graders in high performing countries; and
- 16 participating schools were identified by the Allegheny Conference on Community Development as “school significantly outperforming their peers” based on student achievement.

### **How will schools be selected?**

School districts will be required to go through a competitive grant process in order to participate in Science: It's Elementary. First priority will be given to schools that serve a significant number of students who are scoring below proficient in reading and math – since those students are at the greatest risk of academic failure. In addition, schools will have to show that they are committed to adopting the necessary changes in order to successfully implement this program.

### **How many school districts will get to participate in the first year?**

Up to 150 school districts across the Commonwealth will be selected to participate in Science: It's Elementary in 2006-07. This represents almost one third of all school districts.

### **What's so different about a Science: It's Elementary classroom?**

Here are some examples of what a hands-on classroom really “looks like”:

- The classroom arrangement is student-friendly and promotes investigative activities. Students have lab tables or other flat surfaces to work together and do experiments and other collaborative work;
- Teachers have a place and a plan for organizing a variety of materials and equipment;
- Students are supplied goggles, gloves, aprons and other safety gear;
- Even the youngest students keep lab notebooks and are required to record what they see and hear;
- Students participate in science fairs in partnership with regional employers that feature their work and science learning; and
- Students participate in activities that relate to real life. Current events everyday phenomena like static electricity are discussed and explored.

## **What will participating school districts get from the state?**

Participating school districts will receive:

- Professional development, technical assistance, on-site coaching and on-site mentoring from a highly trained and skilled coach who is assigned to their school district;
- A high-quality, fully tested curriculum and materials, aligned to our state standards;
- Classroom-based assessments to measure student learning; and
- Assistance in building partnerships with local businesses for science fairs and other collaborations.

## **What will school districts have to do once they're selected?**

In order to participate, schools and districts must commit to the following – all at no cost to the school district:

- Send a team to a five-day institute, during which they will learn about inquiry-based elementary science education and create a three-year implementation plan for their school.
- Participate in 20-35 hours of paid professional development per participating teacher per year.
- Provide up to six hours of release time for participating teachers in each school to plan, coordinate and assess the science education modules they are delivering in their school.
- Agree to use the science kits and modules provided by a regional materials resource center.
- The Department of Education will establish reporting requirements including the administration of a classroom-based assessment to ensure that we can evaluate the program's effectiveness in each school.

## **Is there any cost to school districts?**

School districts will not have to pay anything to participate in the first year. Governor Rendell's budget proposal covers the full cost of training and materials. In future years, school districts may be asked to pay for the science kits that are used in their classrooms – but the charge is no more than \$500 per classroom. If a school district chooses to expand the program, they would also have to pay for the additional training.

## **When will school districts apply?**

Application guidelines will be released in early March, with applications due back to the Department of Education in April. Successful applicants will be notified in May that they have been selected contingent on legislative approval of the Governor's Budget, and the project will formally begin once the 2006-07 state budget is adopted.