

Describe existing resources and innovative approaches being used at the school to foster student achievement in science.

Despite the challenges present in the surrounding community, the science education of our students at Crawford Elementary continues to prepare students for college entry with each passing year. The science lab teacher works in collaboration with the K-5 classroom teachers. The third and fourth grade students spend forty-five minutes a day working in the science lab using the five E-model. Proven practices dictate that each student utilizes an interactive science notebook that all students reflect on their own learning and create nonlinguistic representations of observations and experiments. This helps the students enhance their understanding and concepts of science. The science notebooks are an essential element to being a scientist. Homework is sent home daily to allow for deeper understanding and parental involvement. The fifth grade students are immersed in science vocabulary and collaborate in groups for the first forty-five minutes of the day. The following hour is spent in the science lab investigating science concepts. The Science lab teacher infuses all disciplines into science and students have a love for science.

Crawford is a Title I school, with 98% of the students qualifying for free and reduced lunch. Crawford students are determined to excel despite the odds. They are well-behaved, highly motivated and respectful students who have achieved. This helps the teachers teach with rigor and depth of complexity. The following resources utilized to meet the needs of our students include:

- After School and Saturday Tutorial program
- Computer Technology - Studyisland, Sleek, Brainpop, United Streaming, Renzulli, Education City, Pod casts, and Power points
- Globe- Soil and Atmosphere
- Kamico Instructional Media
- Hollingsworth Science Center
- Houston Independent School District's (HISD) curriculum
- National Energy Education Development Solar Energy
- *Options* and *Foss* 3-5 hands-on science kits
- Regional Science Fair
- Rice Elementary Model Science Lab
- Texas Educational Tools' *Science and Literacy Program*
- Texas's Region IV *Gateways*
- University of Houston mentoring program

Question #2

Explain why your school deserves to win the Devon Science Grant Award. Include specific examples of measure that show academic gains in science.

Crawford Elementary deserves to win the Devon Science Grant Award. In 2005, the science instruction program at Crawford Elementary was dramatically changed. We transitioned from a self-contained model to a departmentalized instruction model. As a result, we have experienced an increase in student performance by a net gain of 77 percentage points. We deserve to win the Devon Science Grant Award because in comparison to schools with similar demographics across the State of Texas, Crawford Elementary is in the top tenth percentile of science academic achievement. In 2005, we experienced a 28% growth in Science. In 2006, we grew by 11% and 2007, increased by 9%. 55% of the class performed at the commended level in 2007. In 2008, our students experienced 100% mastery on the Science TAKS test. What is more astonishing is that 73% of those students received commended scores! That is a 25% increase in the commended rate. These achievements are testimonies to the tenacity employed to overcome the highest mobility rate within HISD and to address the needs of children living at or below the poverty level. Further, the momentum built has attributed to a dramatic increase in the students' scale scores on the TAKS test. When students score 2300-2400 on the TAKS test they demonstrate mastery of the skills tested and are academically ready to transition to the next grade. Students who simply pass the TAKS exam have a 50-50 chance of being prepared for post-high school options. Students at Crawford are prepared to beat those odds and pursue higher levels of success.

We deserve acknowledgement of the work done at Crawford because we are preparing a generation of professionals that will add value to our global society. The attitudes and culture at Crawford meet high expectations and students express their desires to be the first high school and/or college graduates from their respective families. This attitude is transforming families and is building stronger family units and parental involvement. Many of them have expressed interests in becoming scientists! The science instruction presented at Crawford does more than raise test scores it catalyzes hope for a brighter tomorrow.

Question 3

Explain how the award funds would be allocated to impact student achievement in science.

Crawford has the potential for an excellent science program beginning in Kindergarten. Research shows that early exposure to complex concepts provides a foundation beneficial to present and future learning. Therefore, it is imperative that the education of our young students be correlated to the demands of the 21st century.

Building codes do not permit younger students to go on third floor where our 3-5 Science lab is located. Crawford does not have a Science laboratory for K-2. Monies would be used to convert an existing classroom to a science lab which will have a direct impact on student achievement in the area of science. Low scores on the Stanford test have proven that these students need more exposure and opportunity to explore their potential in the sciences.

Monies will be allocated to provide the primary elementary grade levels with high quality, teacher friendly science instruction materials. All of these activities will impact student achievement and prepare them for the world as we know. Delta Education Company's Full Option Science System (FOSS) kits best fits our needs for an inquiry-based learning. Through these kits, we will receive intensive faculty professional development and training to facilitate student instruction. We would purchase eight kits and 20 refill packages for new and existing kits. Crawford would like to purchase science lab tables and stools for our 3-5 Science Lab. Tables would enable students to have the science necessities nearby as they investigate, explore and experiment with various materials.

Additional, monies would also be allocated to enhance our electronics and software. The students would create pod casts about earth science which they will download into IPOD and MP3 players. We would purchase three video cameras, three laptops for editing, and MP3 players for check-out.

Crawford would use any remaining monies to offer a more extensive tutorial program for our students. Scholarships would be provided for financially-disadvantaged students to attend Science Space Camp.