

Students learn about science, technology, engineering, arts, and mathematics through hands-on projects at Katy ISD's newest enrichment center



## POWERED BY S.T.E.A.M.

Katy ISD students experience learning through hands-on projects and seminars at the Robert R. Shaw Center for science, technology, engineering, arts, and mathematics

*Written by Cherri Northcutt | Select photography by Reinaldo Medina*

You're standing in the midst of a living room in disarray with broken dishes, weapons, and other objects strewn about the floor. Just beyond the table lies a lifeless body, covered in blood. This was the scene at the Forensic Science CSI Experience held at the Robert R. Shaw Center for STEAM (science, technology, engineering, arts, and mathematics). Over 900 Katy ISD students took part in the forensic science field trips and were taken through fingerprint analysis, interview and interrogation strategies, arson investigation, and a tour of the mobile command stations.

"We partnered with the Fort Bend County Sheriff's Office, who helped us stage the crime scene," says Mariam Manuel, instructional specialist for the Shaw STEAM Center. The field trip also introduced students to the FACES facial recognition program, and guest speaker, forensic anthropologist Dr. Joan Bytheway, director of the South East Texas Applied Forensic Science Facility. Presenters included detectives and investigators from the Fort Bend County Crime Scene Unit and Fire Marshal Department.

## Putting the "A" in S.T.E.A.M.

After Superintendent Alton Frailey witnessed the success of the Cinco Ranch High School CRYptonite Robotics team and spear-headed the beginning stages of the program, then called, "STEM" three years ago, the leadership soon realized that there was an essential element missing, the creative arts perspective necessary to a young student's success. According to facility coordinator Steve Adams, the STEAM center amply provides the space and equipment for students to use their imaginations and creative thinking processes to apply the knowledge they gain in the classroom to large-scale projects.

## Showcasing Future Inventors

As a facility that houses engineering and mathematics-based projects, the design and overall feel of the building was crucial. A team of 36 members, including Katy ISD staff and architects, studied high-tech design facilities in academic and industrial settings to identify four major qualities they wanted to inspire: creativity, communication, collaboration, and flexibility. "This allows teachers to be learners, students to be leaders, and mentors to be co-workers," says Adams.

Through experiments, workshops, teacher training and development, competitions, and camps, students have a chance to learn new things beyond the scope of a normal classroom.

For example, kids and teachers loved the CSI field trips and the Young Inventors Showcase for students in third through eighth grade. "The students brought invention-based projects to be judged through the Young Inventors Association of America, and our first-, second-, and third-place students qualified for the regional competition in Houston, where they had a chance to win a patent with their name on it," says Manuel.

## A Path for Students

Events like the Young Inventors Showcase are only the beginning for the STEAM Center. Future plans include summer camps, family STEAM nights, and science movie nights. They will also partner with Rice University's Civic Scientist program and the University of Houston to plan future workshops for students. The center will also offer more field trips for students and professional development sessions for Katy ISD teachers beginning this fall. "Our hope is that all students in our district will, at some point in their academic career, take part in a project or activity at the Shaw Center," says Manuel.

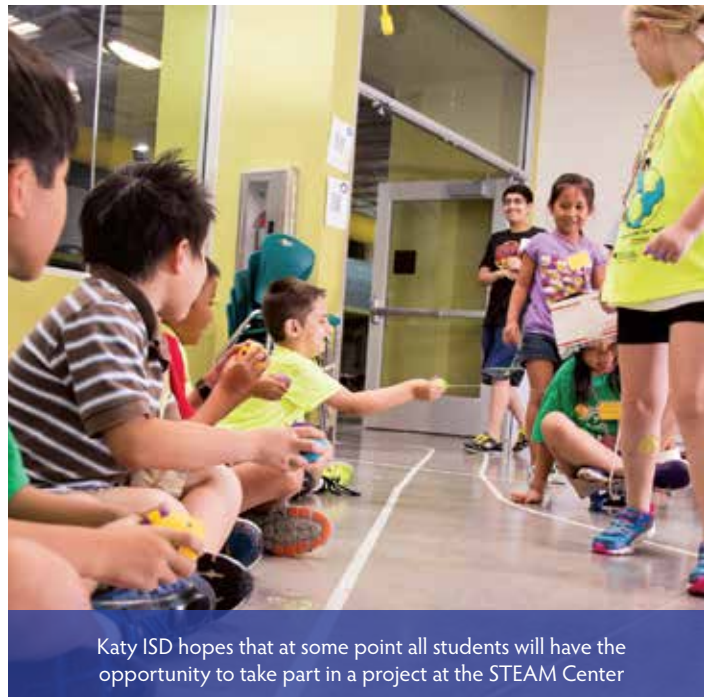
Indeed, with the STEAM Center forging a path for students to engage and excel in science, technology, the arts, and mathematics, it is no wonder that Katy ISD has become a powerhouse of educational opportunity. **KM**



*CHERRI NORTHCUTT is a freelance journalist and mother of two Katy ISD students who have keen interests in science and math.*



Students study fingerprint analysis during a CSI forensic event



Katy ISD hopes that at some point all students will have the opportunity to take part in a project at the STEAM Center




Students showcase invention-based projects that were judged by the Young Inventors Association of America

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# S.T.E.A.M.

## Center Projects

**Hovercrafts**  
Raines High School students spent one week creating hovercrafts to gain a better understanding of pressure, friction, and torque.

**Forensic Science CSI Day**  
Nearly 950 high school students from Katy ISD were split up into six half-day field trips. Tompkins will participate next year when the course is offered.

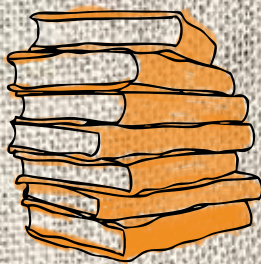
**Bass Cannon Speaker Project**  
Up to 25 students in the audio engineering program at the Miller Career and Technology Center had two weeks to create the plans for and build a 21-foot mono audio system using materials provided by the CTE department and the STEAM center.



## MORE CENTER TIDBITS

- Opened in February 2015
- Named after the late Robert R. Shaw, who served on the Katy ISD board of trustees from 1997 to 2012
- The center is 23, 990 square feet and has eight work bays for projects, heavy manufacturing equipment, and a classroom
- Bays are connected by garage doors to configure workspaces for maximum flexibility

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