STEM Night: Schools, Families, Community, SCIENCE!

Foothills Elementary School, Jeffco Public Schools

Submitted by Katy Evans, katy.evans@jeffco.k12.co.us

Foothills Elementary School is a Title I-funded school located in a region with many STEM industries including renewable energy, medicine, aerospace technology, and higher education. Research indicated that students in Title I schools often received reduced science instruction as schools prioritized reading and mathematics achievement. As a result, students from lower-income families had fewer opportunities to engage in STEM learning and were less likely to pursue STEM-related careers. The school developed a STEM Night Science Fair to connect students and families with these fields.

STEM Night was structured around three components: student-led science projects, hands-on family learning activities, and interactive career exploration tables. This design supported multiple entry points for participation, ensuring the event was welcoming to all families regardless of prior experience with science. All students received classroom instruction on the scientific method along with exposure to developmentally appropriate project examples. Families were provided with resources, including videos and project ideas, to support learning at home. Donated funds were used to supply tri-fold boards for all interested students and to provide experiment materials for families needing financial support.

Students and families worked together to design and complete projects at home. More than 50 students participated, with projects ranging from homemade lotions to camouflage investigations, chemical reactions, and edible crystal formations. Most projects did not come from the idea lists the school provided, demonstrating both the creativity of families and the value of honoring their knowledge.



Professionals from local STEM industries and organizations contributed real-world, interactive experiences. Engineers, scientists, geologists, and planners facilitated hands-on demonstrations including an interactive flood demonstration, glowing gases and light spectra, fluid sand, mammoth bones, and mice Mars rovers. Outreach teams from the University of Colorado and the Colorado School of Mines led engaging student activities such as engineering parachutes, exploring chemical reactions, and extracting DNA.

The event brought together more than 200 attendees. Anecdotal feedback indicated that the collective effort and engagement made the night a success.

Foothills planned to continue this event in the future. One adjustment they plan to make in the future is to align the in-class scientific method instruction with specific grade-level curriculum rather than just aligning it at an age-appropriate level. If other schools are interested in expanding their science fairs or STEM nights, they could reach out to local universities, which often have outreach programs ready to go.