

## Igniting Teachers' Passions

### Real-world experiences are key

Teachers have one of the most important jobs in the world—educating generations who will build the future. But how can these instructors foresee the ways those subjects will be used once children graduate to the workplace? Do they have the experience to make the subjects they're teaching relevant? Do they know what jobs are available so they can help steer their students in the right direction? With science, technology, engineering and math (STEM) professions on the rise, Ignited (formally known as Industry Initiatives for Science and Math Education) has stepped in to help.

Ignited runs a summer program that places eligible elementary through college teachers with Bay Area companies. The teachers work full time at a company where they complete a project and develop new curriculum based on what they learned; then they bring that back to their classrooms to help students succeed in life after school.

This summer, Nasa Cole, a resource math teacher at Livermore East Avenue Middle School, worked as a fellow in the reliability and mechanical integrity (RMI) department at Tesoro Martinez. Cole worked with Scott Chestnut, a reliability engineer, to standardize inspection procedures. Specifically, she focused on some of the more critical procedures that would help with the RMI improvement program.

"Nasa helped the ongoing efforts in the RMI department, as well as the refinery as a whole, to standardize work in-



For more information about Ignited, visit [ignitededucation.org](http://ignitededucation.org).

struction documents that will lead to improvements in training and work execution," explains Chestnut. "She did in eight weeks what it may have taken other resources six months or more to complete. Plus, having a teacher assist in the technical writing improved the overall quality of the material."

Cole was able to learn along the way about inspection procedures with the help of fellow employees in the department. "The employees at Tesoro have made me feel so welcome," she comments. "Everyone in the inspection department has been so inclusive, and I felt not only welcomed but appreciated."

What is Cole taking back to her classroom? She found the structure of her department's weekly meeting was similar to how a classroom is run—everyone gets involved and everyone's opinion is valued.

Back in the classroom, Cole will tell her students that the classroom is like a business. Teachers don't simply put up the rules and teach. There is meaningful discussion, there are problems to solve (together), and everyone has a role. Each student, like each employee, can become a part of the process knowing there is a specific and achievable goal. This is just one way she is hoping to help engage the students to be more involved in their learning.

From Cole's perspective, the experience at Tesoro has been invaluable. She was encouraged to learn that not all students have to be star pupils to succeed. In the refining industry, there are so many opportunities to have a successful career without a college degree. They just need solid math and communication skills, a good work ethic, and the motivation to never give up.

"The inspection department is diverse and indicative of career options available throughout the industry," Chestnut remarks. "There are technicians working with inspectors, operators, mechanics, welders, managers and a variety of engineers. Ultimately, it takes a range of talents to make it all work."

Cole wants to prepare students for life after school and give hope to those who don't have a clear view of what their future holds so they can continue to pursue or find a career path that suits them best.



Nasa Cole teaches her students about expectations in the workplace and the importance of collaboration.