

Teacher in the Workplace

McKinney Center for STEM Education at the Philadelphia Education Fund in partnership with Johnson Controls



Grant Provides Teachers Externship in HVAC Field

As we look at the challenges of education in the 21st century we realize that community engagement and creative partnerships will be required for us to lift our communities and empower our students to reach their full potential. That's why Johnson Controls partnered with the Philadelphia Education Fund and the PA Department of Labor to provide a rich experience for the teachers of the Philadelphia School District and surrounding communities. Together we secured a \$50,000 grant to provide an externship for 25 school teachers in the green HVAC field. The initiative included an orientation, four JCI site visits, and two follow-up meetings and workshops. The overarching goals of this innovative program were to introduce educators to the content knowledge and skill-sets needed for a wide variety of STEM occupations.

In addition to the core partnerships, Johnson Controls was able to reach out to other partner's in the city to provide an enriching and engaging experience. Specifically the Philadelphia Museum of Art, The Energy Coordinating Agency and the University of Pennsylvania Health Systems all signed on to this initiative. Nick Sracic, the lead for the Johnson Controls team helped facilitate these engagement and remarked, "It was amazing to see how well this program came together. When we reached out to our partners and described what we were trying to do and how it was a part of the City's overall Energy Campaign, we received overwhelming support. As you might imagine, it wasn't easy for our host partners to facilitate and coordinate a full day with 25 teachers but everyone put the effort forth. In the end our teachers rewarded us with their level of engagement and enthusiasm which we all hope they take back to their students. They gained a level of perspective and experience that they can now use to inspire and expose their students to a brighter future."

The overarching goals of this innovative program were to introduce educators to the content knowledge and skill-sets needed for a wide variety of STEM occupations.



The educators met project staff and one another, reviewed the upcoming program, and discussed their goals for participation.

Skills for Success

The staff at all four sites reiterated that they seek the following skill-sets in prospective and current employees:

- Problem-solving
- Interpersonal communication
- Leadership and cooperation
- Innovation
- Strong work ethic
- Responsibility and reliability
- Math & computer expertise

Teacher in the Workplace

McKinney Center for STEM Education at the Philadelphia Education Fund in partnership with Johnson Controls

Multiple Site Visits to Maximize Learning

- Philadelphia Education Fund Orientation
- Johnson Controls Office
- Philadelphia Museum of Art
- Energy Coordination Agency / Solar States
- University of Pennsylvania Health Systems

Big Ideas

Important themes from all 4 visits included:

- Be a continuous learner
- Energy efficiency and renewable energy are key
- Encourage students to take risks
- Provide safe spaces in which students can learn from failure
- Arrange site visits and/or classroom presenters representing diverse STEM occupations
- There are multiple job opportunities in multiple fields
- Apprenticeships and/or internships are important
- Reach out to local unions, businesses, and professional organizations
- Take a tour of your own school building – including the maintenance and facilities departments



The group toured Johnson Controls and explored the content knowledge and diverse skill-sets required for working in the heating and cooling industry.



From experiencing solar installation practices to learning how to use a ladder, this site visit reviewed solar energy practices, applications, certifications, and occupations.



Through exploring three-dimensional models, computer graphics, traditional blueprints, and a construction site, educators experienced the creation of Penn's Pavilion (hospital) Project.