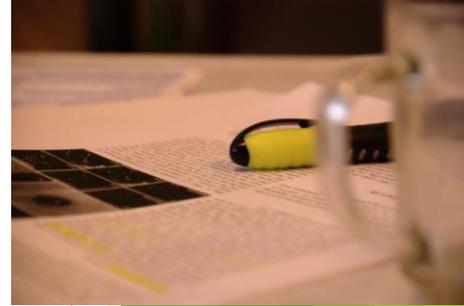




Penn Trafford School District

Our STEM Story

STEM Readings & Activities



- ▶ Problem solving activities with predictions and use of prior knowledge set the tone of future participation in activities and the collaboration with Arconic
- ▶ The process is more important than the answer
 - ▶ This realization drives our instruction and participation in this program
- ▶ Focus of collaboration and communication to develop district wide mindset
- ▶ Cross curricular STEM project that highlights each person's strength
- ▶ Our district does a good job with our STEM departments; however, the readings and activities helped us focus our STEM procedures within the classroom

Takeaways from Corporate Visit

- ▶ Gave us the idea for our *partnership* vision
- ▶ Create *professional network*
- ▶ Strength of *adaptability* and *communication* in the workplace
- ▶ *Implications for the classroom*: Flexibility and use of strengths
- ▶ *Real world application* of classroom concepts
- ▶ Connections with *women in science*



ARCONIC

STEM Interviews



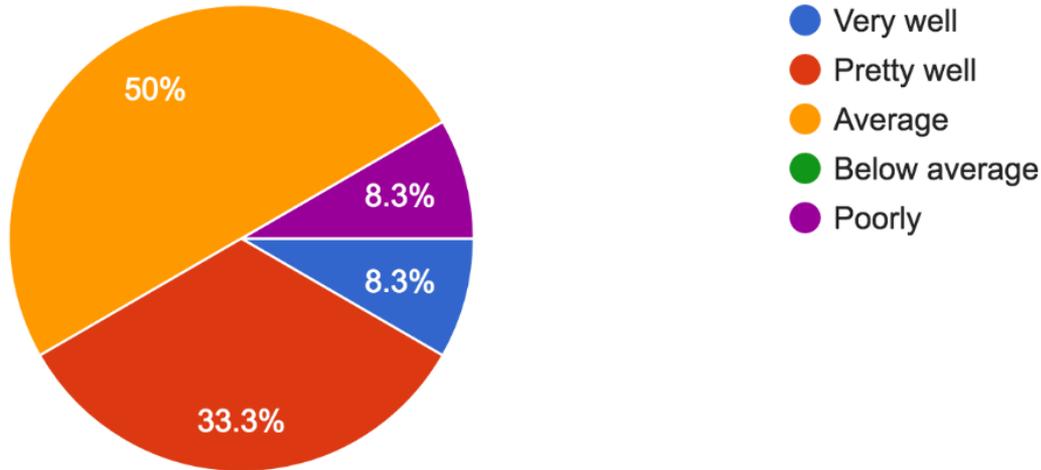
Questions Asked to Students and Teachers:

- ▶ Do you know what STEM is? Please define it.
- ▶ Do you think there are opportunities for STEM at Penn Trafford? Give examples.
- ▶ How well or poorly are our students prepared for STEM related careers?
- ▶ Can we improve our STEM program? Please explain.
- ▶ How might a partnership with a corporation benefit our students?

STEM Interview Feedback



How well or poorly are our students prepared for STEM related careers?



Can we improve our STEM program? Please explain.



“STEM needs to be more cross-curricular.”

“Provide training and materials for STEM related instruction to all staff”

“More programs at a younger age, improve quality of curriculum across all domains.”

“More real world experiences”

How might a partnership benefit our students?



Real World Application and Experiences

“For the students to see the connection to the real world and why learning this material is important and can be beneficial to careers in their future.”

“A partnership with a corporation would allow for students to have hands-on experiences with STEM related job opportunities and see how STEM is applied in real world situations. Possibly could help close the gap between college and technology programs. Could lead to job placement, work studies, and shadowing opportunities for students at Penn Trafford.”

Integrating the Standards

- ▶ Most challenging aspect - most teachers don't understand the practices or realize that they exist
- ▶ District is still working on truly understanding the PA Core standards
- ▶ The district is finding ways to fit the CEW standards into pre-existing courses (Career Portfolio Checklist)

PTHS Career Portfolio Checklist	
REQUIRED ARTIFACTS	OPTIONAL ARTIFACTS
<input type="checkbox"/> Community Service Hours (13.1)	<input type="checkbox"/> College/Career Fair (13.1)
<input type="checkbox"/> PSAT Test Scores (13.1)	<input type="checkbox"/> Part Time Job (13.1, 13.2)
<input type="checkbox"/> Yearly Career Plan Meeting (13.1, 13.2, 13.4) <input type="checkbox"/> 9th <input type="checkbox"/> 10th <input type="checkbox"/> 11th	<input type="checkbox"/> ASVAB (13.1)
<input type="checkbox"/> CWCTC Presentation (13.1)	<input type="checkbox"/> Waypoint Testing (13.1)
<input type="checkbox"/> Reality Fair (13.3, 13.3, 13.4)	<input type="checkbox"/> Transition plan (13.1, 13.2, 13.3, 13.4)
<input type="checkbox"/> PA Career Zone Interest Profiler (13.1)	<input type="checkbox"/> Shadow/Internships (13.4)
<input type="checkbox"/> PA Career Zone Skills Profiler (13.1)	<input type="checkbox"/> Workforce Experience Hub Exploration (13.4)
<input type="checkbox"/> Media Center Speakers (13.4) <input type="checkbox"/> 9th <input type="checkbox"/> 9th <input type="checkbox"/> 10th <input type="checkbox"/> 10th <input type="checkbox"/> 11th <input type="checkbox"/> 11th	<input type="checkbox"/> Resume (13.2)
<input type="checkbox"/> Class collaboration on project (13.3) <input type="checkbox"/> 9th <input type="checkbox"/> 10th <input type="checkbox"/> 11th	<input type="checkbox"/> Letter (13.2)
<input type="checkbox"/> Soft Skills lesson- Grade 9 English (13.2, 13.3)	<input type="checkbox"/> Mock Interviews (13.2)
	<input type="checkbox"/> Research (13.1)
	<input type="checkbox"/> Entrepreneurship (13.4)
	<input type="checkbox"/> Career Related Field Trip (13.3.)

Authentic, Problem-Based Learning



Current Examples:

- ▶ STEM Curriculum 7-12
- ▶ 21st Century Learning push in the district - Collaboration, Communication, Creativity, Critical Thinking
- ▶ Reality Fair (Westmoreland Federal Credit Union partnership)
- ▶ Some cross-curricular lessons -CUE (Cross-Curricular Unified Environment)

How to strengthen:

- ▶ Expand STEM Curriculum to Elementary Schools
- ▶ Continue with 21st Century Initiative - Share with the staff to encourage culture of process oriented and inquiry learning

Creating the Partnership

PARTNERSHIP



- ▶ First step: STEM Day to develop partnership
- ▶ Make contacts and network with Arconic in all fields
- ▶ Focus on Career Readiness - How can Arconic work with us to develop a partnerships for job shadowing, internships, field trips, career awareness speaker series, etc...
- ▶ Hopefully, make Arconic STEM Day an annual event

Audience
Questions?

