



ECP STEM Action and District-Business Partnership Plan

Brentwood School District

February 27, 2019



Our Story...



Brentwood's STEM Story

Engineering through F1



<https://youtu.be/GILtTiQvqag>



<https://youtu.be/aoZtCnKuDRw>

Vex Robotics



<https://youtu.be/7FvXbMVbZtw>

Computer Science



Discovery From STEM Activities and Readings

- Scientific process
 - Start with a question
 - Conduct research
 - Create a theory
 - Computations
 - Trial and Error
 - Solution
 - Further analysis needed?



Corporate Visit Take-Aways

- Many job opportunities in the STEM fields
 - Global opportunities exist as well
- PPG is
 - Not just paint. Not just glass.
- Experimentation Process
 - Perseverance
 - Negative results are still results
- Advancement available in all fields and at all levels
- More practical applications in the classroom



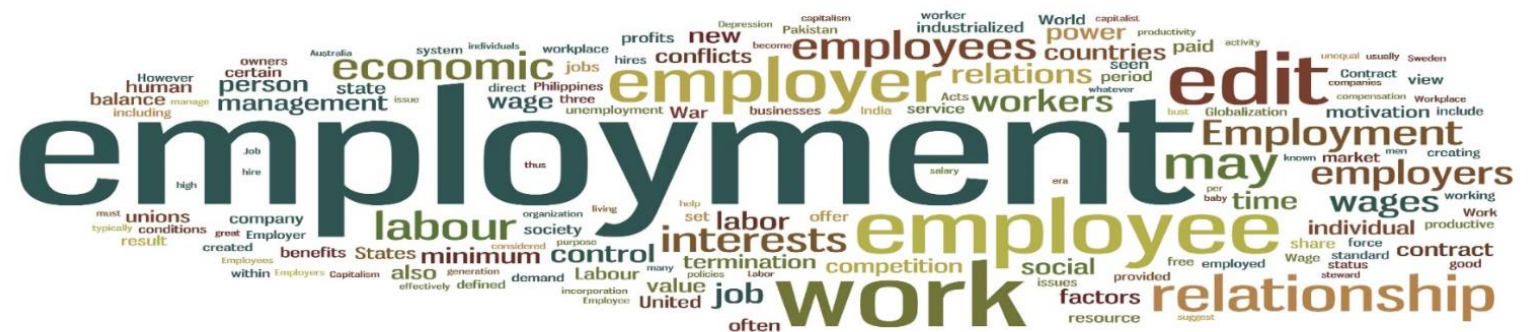
Colleague Interviews


- STEM
 - Uses higher level thinking skills and 21st century learning skills
 - Peer interaction and collaboration
- Gives students opportunities to understand a career pathway
- Hands on activities
- Technology is more meaningful if used in a purposeful way
- Additional STEM electives
 - Explore STEM curriculum



Practice Standards and CEW Standards

- Integrated currently
 - More collaboration needed to map how we are integrating them across the curriculum
- Identify standards that need further integration
 - Entrepreneurship and Job Shadow Experiences





Authentic Problem-Based Learning Opportunities

Lessons/Units

- Suggest each course incorporate a research-based project
- Create opportunities for students to truly experience the trial and error process

Courses

- Continue to connect with local universities and organizations to build courses of study (TSA, CMU, F1, Pitt) that inherently have PBL content/process
- Offer a summer STEM opportunities through partnerships with other school districts

PPG/Brentwood Partnership Spring 2019

- Visit to PPG Springdale
 - Brentwood Communications students
 - Create a video to showcase
 - Our partnership with PPG
 - Career paths within the corporation
 - Interview select PPG Springdale employees
 - Career preparation
 - Current responsibilities
- Deliverable
 - Video that will be shown during high school open house next fall



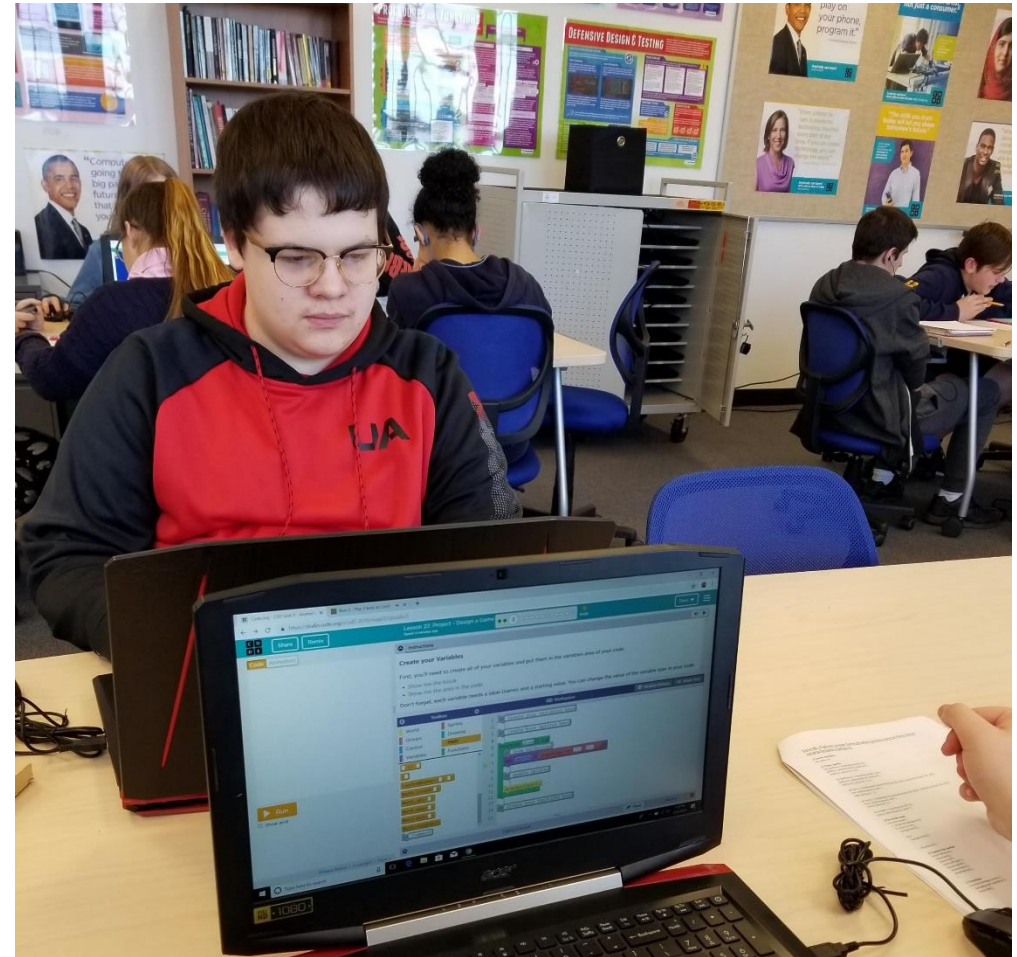
PPG/Brentwood Partnership Fall 2019

- September 2019
 - High school Open House
 - Showcase partnership through video showing
- November 2019
 - In-House STEM problem-solving event
 - For all 10th grade students
 - Showing of partnership video
 - Complete application-based activities that promote critical thinking and problem-solving



PPG/Brentwood Partnership Spring 2020

- Student Visit to PPG Springdale
 - Top four teams of three students
 - Tour and participate in further problem-solving



PPG/Brentwood Partnership 2020-2021 and beyond...

- Job Shadowing/ Network Opportunities
 - Students who participated in PPG event in Spring 2020
 - Hands-on experiences within a field of interest

