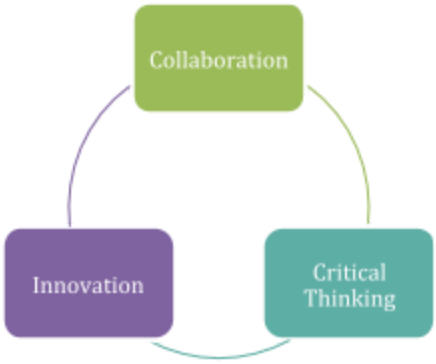
STEM School Chattanooga
10th Grade PBL
Unit 4 Plan

Unit Quarter: 4 - Signal Centers



Learning Target Topics

Collaboration: Holding each person within a group accountable for their actions and attitudes.

Critical Thinking: The continuous process of evaluating ideas and designs.

Innovation: Continuous circuit of improvement, building off of previous ideas.

Grade Level	10th Grade	Unit Length	7 weeks
Industry Partner	The business partner for the Unit 4 10th Grade PBL is Signal Centers. The main contact between STEM and Signal Centers is Megan Grant.		
Unit Overview	Signal Centers mission is to strengthen children, adults and families through services focusing on disabilities, early childhood education and self-sufficiency. STEM students will work with Signal Centers participants to provide and design solutions based upon the various needs of the participants.		
Unit Essential Issue	Choice of one driving question: -How can we, as design engineers, design and create assistive technology pieces for wheelchair bound and physically impaired individuals? -How can we, as "imagineers", design and create life-size games suitable for wheelchair bound and physically impaired individuals? (i.e. Kerplunk, Connect Four, Jenga, Scrabble, Pumpkin Slingshot, etc.) -How can we, as environmental engineers, design and create a full hydroponics system suitable for wheelchair bound and physically impaired individuals? -How can we, as occupational therapists, design and create artistic activities to enrich and support the emotional and social learning of wheelchair bound and physically impaired individuals?		
Kick Off Event	February 26: Signal Centers staff members will visit STEM to present overview of Signal Centers and highlight some of their participants' needs.. STEM students will be able to begin gaining empathy for the different participants, their struggles, and their successes. Team Groupings: Students will have the choice of selecting their own group or being placed in a group. Teams will include at most 3 students.		

Culminating Events	STEM School Presentation, April 9: Each STEM group will present their design and their design improvement process to 10th grade and Signal Centers staff. Signal Center Presentation, April 11: STEM groups that are chosen to present, by Signal Centers staff, will present their final design. The final designs will be presented at Signal Centers in front of the participants, their families, and administration staff.
Common Assessment	Students will be scored using the Innovation Rubric and Final Presentation Rubric for STEM III. The students will complete these tasks and products during the PBL: 1. Assignment (Weekly Prototype Reports) 2. Final Presentation (5-10 minutes) 3. Product (Model of Product) The Weekly Prototype Report: ● Report Template ○ https://docs.google.com/document/d/1J0501-rG5pX0SR3O5azM_2FAr-JrRfMWOKcijvjXARs/edit ● Sample Report and Overview of Weekly Prototype Report ○ https://sites.google.com/a/hcde.org/stemschoolfablab/stem-iii-work-products/weekly-prototype-report The Final Presentation Rubric: ● https://docs.google.com/document/d/1rRb-gIuDxuF5Gzq2nhHKp45R2Nid2TyEXZo7hwBGj0I/edit The Innovation Rubric: ● https://sites.google.com/a/hcde.org/stemschoolfablab/stem-iii-course-info/stem-iii-evaluations-innovation