**Community Engagement Challenge**

**STEM Initiative Report**

**Spring 2021**

**Summary of program:** Due to the COVID-19 pandemic, educational inequities have widened across the nation and in the city of Rochester. Opportunity gaps derive from lack of funding, access and a paucity of leadership. STEM Initiative worked this semester to ensure that the students we serve did not fall behind and continued to have the opportunity to explore their passions in STEM. Under normal circumstances, we set up extracurricular activities (either after-school, or on weekends) and demonstrations in-person. Past demonstrations we have done include exploring how enzymes work with Jell-O, acids and bases with cabbage and pH indicators, and forces of gravity and the field of engineering with marshmallow towers. However, due to new budget protocols and the constraints of online learning, we were slow to adjust at the beginning of the academic year. The Community Engagement Grant was key to our success in the spring semester, where we hosted ten at-home experiments for our elementary and middle school students to follow along with. We sincerely thank you for providing the funds to continue our work.

Specifically, our new budget was limited by shipping and packaging costs. With the additional funding the Community Engagement Challenge provided, we were more flexible with the design of our experiments, and were not limited to 2-D interactions, but rather shifted to hands-on learning in all our weekly activities. We did not want to sacrifice on the quality of our demonstrations due to the COVID pandemic and proceeded forward with one of our most enriching yet difficult to set up experiments: do-it-yourself batteries. Testing out multiple materials including lemons and different circuit connectors, our curriculum chair determined that potatoes had the most electrical potential and would be easiest to work with. Due to the COVID-19 restrictions on purchasing perishable items through Amazon, we were able to use the Community Engagement Challenge grant to purchase 12 bags (5 pounds each) of potatoes from the local grocery store. Each student had 2 potatoes, along with a prepackaged circuit, to work with, and were able to create their own batteries from scratch. Ten students from the Boys & Girls Club, 14 students from School 16, 12 students participating in E-Time for Girls (subset of Boys & Girls Club), and 6 students from Nativity Prep participated. Due to the restrictions on photos with minors, we are unable to provide such, but received excellent feedback from students and coordinators about the activity.

We believe hands-on activities are imperative to science education because science is easiest to learn when it becomes intuitive. It can only be intuitive when it is experienced, whether in a professional laboratory or in a makeshift experiment at home. We were proud of our collaborative work this semester to provide students at the Boys and Girls Club, School 16, and Nativity Prep with the chance to experience science, and wholeheartedly thank you for your contributions that made this possible.