Phelps Library STEM Explorers

- Attend Raspberry Jam to learn about Raspberry Pi and the world of IOT (Internet of Things)! There are endless opportunities with the Raspberry Pi from controlling lights, to creating your own retro-game emulator, to building your own robot and so much more! This event will be held at the University of Rochester.
- Each participant will receive a free tool box with tools. Learn about the mechanics of household items by taking them apart to see how they work. Items include computers, fans, televisions, kitchen appliances, digital cameras, and cell phones. (In this class, we pay close attention to see who gravitates toward the digital and to the mechanical, so we can offer them more activities in that direction).
- Learn about tooling! We will use hardware like nuts, bolts, and screws, quality control, and measuring by investigating the treasures we dismantled in the first class.
- Attend Maker Faire Rochester. Much like the FLX Maker Fest, MFR is a gathering of fascinating, curious people who enjoy learning and who love sharing what they can do. From engineers to artists to scientists to crafters, Maker Faire is a venue for these "makers" to show hobbies, experiments, projects. Entry fees will be paid by the Phelps Library.
- Build an Augmented Reality Sandbox! Using a computer, 3D projector, and special sand, pushing the sand into mountains will change the topography projection in real time! Hold your hand over the sand to make it rain! We will learn about electricity and volts. Learn about our region's watershed and our impact on water quality.
- Use the AR Sandbox and program the equipment with software to learn about our region's watershed and our impact on water quality. Test out Virtual Reality technologies.
- Take field trips to some of our local, innovative manufacturers! We will travel to OptiPro in Ontario, NY, to learn about STEM and technical careers, test optical equipment, learn about the optics, ceramic and metals industries, and much more!
- Visit Flint Creek on Ontario Pathways to collect water and aquatic insect samples to monitor our local water quality. Use microscopes to investigate the insects. Speak with a member of NYS Environmental Conservation to learn more about environmental science.
- Learn about the science of science by designing and building a whisper tube for our Children's Room! Learn about plastics manufacturing, the plastics in your world, and the environmental impact of plastics. Learn how to calculate and measure, and build a model of your design.
- Tackle engineering with the James Dyson Foundation Engineering Box. Using screwdrivers to discover design clues and learn how machines work, the Engineering Box to challenges more students to think like engineers. The Engineering Box is a reverse engineering kit that takes students through the design process by disassembling a Dyson machine – understanding how a machine works by taking it apart.