

Leah Hamilton

2018 Summer STEAM Workshops, facilitated through Pioneer Library System

Residents of small rural communities often lack access to meaningful enrichment. Libraries in these communities are an essential conduit to educational experiences outside of school. Small rural libraries are vital to halting the summer slide that many students experience when schools let out in June. This program will help students stay on track and be ready to learn in the fall.

STEM learning builds better readers, making libraries and STEM (Science, Technology, Engineering and Math) education a perfect partnership. This proposal would benefit the libraries by bringing children in, when transportation can be a significant barrier to accessing library programs and services. Libraries often lack funding and expertise to offer high quality STEM classes.

The proposed program will bring three different STEM classes to each of the seven libraries (Lyons, Newark, Sodus, Red Creek, Rose, Wolcott, Clyde) over a five-week period. Students will explore STEM concepts with Leah Hamilton, a noted STEM educator and library innovator. This STEM learning will encourage critical thinking and creative problem solving. Students will engage in hands-on activities and experiments that are student-led and promote curiosity and discovery.

Workshop I – Estimation: STE(A)M By Land and Sea

Design and build a ship and a catapult, and estimate how each mechanism will perform. Using the engineering design process along with math skills, students will build these two mechanisms and estimate distance, accuracy, and weight capacity.

Materials required: books on boats and catapults, bamboo skewers, popsicle sticks, 2” foam insulation cut into blocks, marshmallows, rubber bands, paper snack cups, masking tape, aluminum foil, Rubbermaid bin, water, pennies.

Workshop II – Building a Strong Foundation in STEM: Architecture & Building

We will read *Iggly Peck, Architect*, and then design and construct two structures. The first challenge will be built from jelly beans and tooth picks using a basic design structure. The second challenge will be to build the highest structure possible from a cup full of surprise goodies which will also support a weight at the very top of the structure.

Materials required: *Iggly Peck, Architect*, by Andrea Beaty, jelly beans, toothpicks, plastic tumbler cups, straws, tape, 8.5x11 paper, paper clips, paper snack cups, sandwich bags, rubber bands, paper plates, paper cups.

Workshop III – Coding & Programming with Art & Robotics

We will read *How to Code a Sandcastle* by Josh Funk, and then learn about how to program and code with Ozobots using art to design the track for the robots. Participate in various ozobot challenges to learn about coding and programming.

Materials required: *How to Code a Sandcastle* by Josh Funk, Ozobots, large format paper, markers, Ozobot stickers