

# Hands-on Learning Grants for the 2019-2020 School Year



**17 GRANTS AWARDED TOTALING: \$37,516**

## **Title: Hands-on Summative Assessments**

Grant Applicant: Dean Pogatchnik

School: Armstrong High School

Amount Awarded: \$1,500

Short description: This project is an attempt to reach more students in summative assessments. They have started including hands-on projects in addition to standard tests. This allows students who don't test as well to show what they have learned during the chapter in a hands-on way. Projects include the heat shield, Egg lander, Sludge, and the Periodic Table project.

## **Title: PreK Creator Corner**

Grant Applicant: Arden Leali-Broberg, Liz Swenson

School: Lakeview Elementary School

Amount Awarded: \$2,300

Short description: This project seeks to create a preschool-level Makerspace in the classroom for students to begin experiencing STEM concepts such as engineering, computer coding, math, and science. The goal is to encourage children to build, manipulate, problem-solve and explore in student-directed discovery.

**Title: CNC Tech Program for Special Education**

Grant Applicant: Lori Sundberg

School: Armstrong High School

Amount Awarded: \$1,000

Short description: This project's goals are to make the technology programs we currently have at Armstrong more accessible by investing in a CNC router (computer-controlled cutting machine). This will further expand the opportunities for students to make and design wood projects without needing the requisite motor skills it would take to run some of the other woodworking machines. This will allow students to gain "real-world" experience and use design programs found in the workforce today.

**Title: Science+Sensory=Success!**

Grant Applicant: Kristin Peterson

School: Early Childhood Special Education

Amount Awarded: \$1,621

Short description: New hands-on science materials will be purchased for a kindergarten and first-grade classroom. All students in the program have diagnosed disabilities and need a high level of sensory and hands-on support. These students are in a center-based classroom and do not have access to science specialist classes as their general education peers do. This project's goals are to create an innovative, hands-on, sensory supportive experience to ensure that my students have the opportunity to learn and grow from having science-based inquiry experiences. The materials will be shared with other special needs learners and classrooms in the building.

**Title: 5th Grade Spoken Word Project**

Grant Applicant: Shannon Lacy

School: Meadow Lake Elementary

Amount Awarded: \$2,800

Short description: This innovative, culturally responsive residency program has supported the academic engagement of nearly 9,000 Twin Cities students, by using African American literature as a springboard for teaching reading and writing. The Given's Foundation is an education residency program that brings writers into the classroom. They will use culturally relevant strategies using Black literature, creating student-centered educational performances, creative writing and spoken word.

**Title: Percussive Dance: Unlocking the Human Instrument**

Grant Applicant: Melissa Kivi

School: FAIR Pilgrim Lane

Amount Awarded: \$2,500

Short description: During this school-wide arts integration residency, all K-4 students will engage in learning about dance and drumming from various cultures around the world while expressing themselves using their own body rhythms. Classroom teachers will also learn unique ways to integrate dance into content area learning. Students will be physically engaged in dance and drumming experiences to use their own internal rhythms in order to make music and dance movements as a group. Not only does dance improve flexibility, coordination, balance, stamina, strength, and posture, it also enhances children's emotional, social, and cognitive development.

**Title: LocoXtreme Robotics**

Grant Applicant: Chadd Perkins

School: Armstrong High School

Amount Awarded: \$3,000

Short description: People who can write computer code are in high demand.. Students will be inspired to learn computer science when results are more visual and the learning process is more hands-on. With this program, 11th & 12th and FIRST Robotics students will formulate complex robotics and engineering problems as smaller and manageable sub-problems, design and critically analyze solutions to the sub-problems, use standard data structures, algorithms, conditional flow logic, recursion, descriptive and predictive statistics, and sensor physics to computationally solve the sub-problems, and so much more.

**Title: Hands-on Comparative Anatomy**

Grant Applicant: Sara White, Billie Pace-Graczyk

School: Sandberg Middle School

Amount Awarded: \$1,764



Short description: Using comparative anatomy materials, 7th-grade students will benefit from hands-on learning to compare and contrast structures of different species. The program requires materials to help cover standards in four units every year. With the purchase of comparative anatomy materials, students will be able to further their understanding of their own anatomy and how it relates to other organisms. This will prepare students for a frog dissection and other future dissections.

**Title: Interactive Read-Aloud Kits**

Grant Applicant: Brenda Landwehr, Jennifer Byers

School: New Hope Early Childhood

Amount Awarded: \$2,958

Short description: The Interactive Read Aloud Kits will provide students and teachers with the materials necessary to fully implement Balanced Literacy and expand hands-on, meaningful learning experiences in the classroom. Imagine telling the story of The Three Little Pigs with actual examples of the building materials, sound effects to go along with the story, and houses to blow down. Then, students are able to retell the story using costumes and props. Students are given the choice to read variations of the classic story. Research confirms that children learn the most when they are actively participating in the learning process (Katz 1994).

**Title: Providing Equitable Access to Creation Materials**

Grant Applicant: Belle Nelson

School: Forest Elementary School

Amount Awarded: \$2,341

Short description: The project's goals are to create a Makerspace learning area where students have the opportunity to create, problem-solve and reflect on their learning. The vision is to provide more equity with creative supplies that will give all of our kids to have a place to make their school projects shine, no matter what resources they may or may not have at home. In the media center, there will be an emphasis on quality media production of all types. This includes digital presentations, 2D products of

learning such as posters, and imaginative solutions to problems like building a multitasking robot out of everyday supplies. With the supplies included in this grant, all learners will be able to create high-quality learning products when they are at school.

**Title: Keeping it Cool**

Grant Applicant: Teresa Esnough

School: Cooper High School

Amount Awarded: \$1,500

Short description: The objective is to demonstrate the gas laws and properties of matter in a more engaging way. It is currently done by students watching a less engaging video. Two Dewar flasks would allow for demonstrations and experiments to be done using liquid nitrogen. These are the only containers that will hold substances to be stored at such a cold temperature. It would also open up more opportunities for students to explore different project ideas for individual design experiments.

**Title: Innovative Math Lab**

Grant Applicant: Lindsey Kruppstadt

School: Armstrong High School

Amount Awarded: \$3,000

Short description: The Math Resource Center is a space where students work independently on math and get one-on-one assistance from teachers. The goal is to transform this experience from a tutoring session to a collaborative and immersive mathematical experience in an Innovative Math Lab. We plan to do this with manipulatives, mobile writing spaces, lightweight stools, touch-screen technology, and Rocket Boards. This will revolutionize their learning from a two-dimensional pencil to paper activity, to hands-on, immersive and inspiring exploration.

## **Title: Why We Have Worms - The Science of Vermicomposting**

Grant Applicant: Billie Pace-Graczyk

School: Sandburg Middle School

Amount Awarded: \$3,000

Short description: Vermicomposting, or using worms to break down food scraps, is a hands-on, inquiry-based learning experience that honors students as capable young adults, readying themselves to be future environmental leaders. Vermicomposting empowers students to think big-picture as they develop leadership skills, gain a deeper understanding and appreciation for the environment, practice good stewardship of the land and natural resources, and reduce human impact on our fragile environment. In this hands-on, inquiry experience, students will also network with the school community, not only educate but also collect cafeteria food waste to be used in their systems. The students who participate in this project will positively impact not only our school community but also our Earth as a culminating experience. Each student will harvest and use the collected compost to grow plants, which will be sold to the community as a fundraiser.

## **Title: Testing the waters: Water and Soil Quality Evaluation Project at French Park**



Grant Applicant: Kath Kneeland

School: Armstrong High School

Amount Awarded: \$3,000

Short description: During the fall, high school students in Environmental Science would get hands-on experience doing a variety of chemical and physical tests to evaluate the water quality in Medicine Lake as a part of their broader understanding of environmental factors influencing water quality. In the spring, the high school students would then teach and assist a group of middle school students in doing the same tests (on-site at Medicine Lake) and discuss together what the results mean about water quality in Minnesota, and brainstorm actions that students can take to improve it.

**Title: Balancing Science**

Grant Applicant: Amy Buchholtz

School: Armstrong High School

Amount Awarded: \$1,500

Short description: Learning by doing is a part of all science classes. Analytical assessment is a major skill needed in science class. By improving the quantitative equipment and data for students, a learning environment in which all students can succeed is created. This grant will upgrade and replace outdated equipment. Students will be able to take an accurate mass of an object, which is pivotal in calculations of percent yield, energy consumed and other stoichiometric conversions.

**Title: 2nd Grade Science and Social Studies Puppetry**

Grant Applicant: Nichelle Lasar-Otto

School: Northport Elementary School

Amount Awarded: \$2,000

Short description: Our goal is to have 2nd-grade students participate in a meaningful standard-based activity involving puppetry. With the help of resident artist Julie Kastigar Boada, students will make and perform puppets and artwork to illustrate the life cycle of local animals and how the local animals and people interact with the environment. Julie is a local artist that has worked extensively with ecology and puppetry. She also integrates Native American storytelling. Project-based learning like this not only ensures that students will authentically learn science and social studies



curriculum, it improves student's attitudes towards science, social studies, and school in general. It is also important for students to see that contemporary artists and art can educate and reference the environment.

**Title: Inquiry Into Action: Creating Hands-On Experiences that Ignite Curiosity**

Grant Applicant: Jill Bryan

School of Engineering and Arts

Amount Awarded: \$1,500

Short description: Inquiry tables are dedicated spaces for hands-on learning in the classroom. They consist of a plethora of items related to a theme: phenology, geology, herpetology, geometry and provide a space for children to touch and manipulate objects to ask questions, conduct research, explore, build, and share learning. Inquiry table resources provide dedicated materials where students can connect their learning across content areas and interests through hands-on experiences. Something as simple as a table filled with a variety of objects on a theme becomes an incubator for inquiry-based learning through collaboration, critical thinking, communication, and creativity. Anyone enrolled in a first-grade class will be able to participate in this program.