

Hands-on Learning Grants – 2017-2018 School Year

Empowering Student Voice Through Video

Author: Matt Schneider

School: Sonnesyn Elementary

Robbinsdale Area Schools Unified District Vision tasks us to amplify student voice in our schools and to utilize culturally responsive and personalized learning opportunities for all students. We will transform space in our school to be used as a video production suite. Small groups, classes, and individuals will create video projects ranging from student-created art and entertainment, instructional videos made by students or teachers or documentation of work done in our community.



Pyramid Model Tier 3 Individualized Interventions

Author: Pam Johannes and Brenda Landwehr

Program: Early Childhood Family Education

Research indicates that young children's social emotional development matters, and is a predictor of school success. Robbinsdale Early Childhood programs have adopted the Pyramid Model, a research-based framework, or approach for intentionally teaching social-emotional skills. The pyramid is comprised of three tiers and each tier supports children at different levels of need. The top of the pyramid or tier 3 consists of individualized and intensive interventions for children with persistent challenges in the classroom. This project seeks to provide teachers with classroom materials to assist the top 5% of our children.



Media MakerSpace

Author: Brian Witzke

School: School of Engineering and Arts

Maker Spaces provide unique opportunities for students to delve into new concepts and applications all the while gaining experiences that lay the foundation for critical thinking, problem solving, new vocabulary and so much more. By having ALL students have a similar experience and application of content, students enter the learning more equitably which allows ALL students to have success and achievement



Hands on Engineering Materials

Author: **Ashton Wurzinger**

School: Plymouth Middle School

This project introduces how engineers create and develop new sources of energy and how they adapt renewable energy resources to a specific area (solar panels in cities, vs solar panels in the desert).

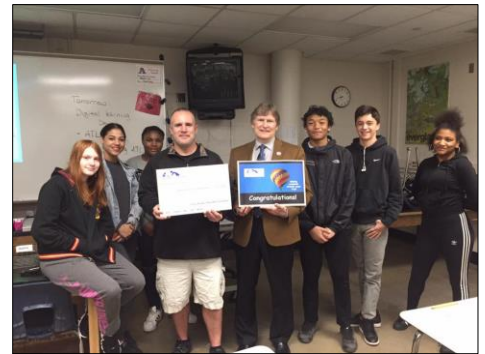


Introduction to Electronics

Author: **Dean Pogatchnik**

School: Armstrong High School

We will be creating an "Introduction to Electronics" series of hands-on labs. They will go over the basics of understanding current, voltage and resistance as well as creating simple circuits.



Making math stick!

Author: Lesley De Paz

School: School of Engineering and Arts

Making math stick, literally with magnets! This grant will allow us to use a reusable, interactive math manipulative that allows students to physically build math concepts. From using the magnetized tiles to build multiplication arrays to building three dimensional shapes, Magformers allow students to manipulate the tiles to show a visual of the math concept they are learning. This manipulative can be used to teach over five Minnesota state third grade math standards. An additional aspect is that they are reusable and durable so they will last for years.



Multi-Sensory Integration

Author: **Erika Hennen**

School: Neill Elementary

This group of children have multiple sensory needs and have difficulty maneuvering their bodies in their environment and focusing on the curriculum. By obtaining needed equipment, such as weighted blankets, therapy balls, switches for communicating, and cause/effect



Learning Geometry with Magna-Tiles

Author: Robin Sorheim

School: FAIR – Pilgrim Lane

Magna-tiles are translucent plastic magnets that provide hands-on experiences to create geometry concepts and building skills. The pieces stick together and students can create their own building sculptures while learning about geometry. The Magna-tiles would be used to teach geometry standards for Kindergarten as well as support social skills through play-based learning.



Minnesota American Indian Culture Traveling Exhibit

Authors: Tasheena LaChapelle, Elayna Corbal, & Randy Gresczyk

District-wide

The Ojibwe/Dakota Cultural trunk creates a tangible and authentic resource which will engage all students and teachers district-wide in hands-on learning experiences. It provides teachers access to artifacts and curriculum to meet statewide standards regarding teaching American Indian standard criteria. The Cultural Trunk includes various recommended authentic books, written by American Indian authors, articles essential for sustenance, birch bark crafts, animal hides, wild rice, traditional regalia, beadwork, and traditional handmade crafted artifacts.



MakerSpace

Author: Julie Welter

Implementer: Lauren Hennies

School: Robbinsdale Spanish Immersion

Our MakerSpace engages learners in science and engineering. Learning by doing stimulates the brain and makes stronger connections that apply to real life situations. The MakerSpace includes materials like LEGOs® and arts and crafts supplies. The arts and craft projects will be responses to literature and free form. LEGOs® that move with motors are a key element for this project. It is the intention of the media specialist to alternate between technology lessons and lessons that include Makerspace challenges. This will allow our students to create interactive projects that develop their ideas through trial and error. All electronic components are reusable so that our MakerSpace can benefit students for years.



Wireless Data Collection Probes for Use with Chromebooks in Biology

Author: **Rebecca Lautenschlager**

School: Armstrong High School

Expand scientific inquiry beyond the walls of the classroom through digital collaboration between students with a set of sensors and one Chromebook! AP Biology requires student generated scientific questions and experimental design. Students will alter variables, record instant results, observe trends in a 45-minute class period. With the data in Chromebooks, students can work cooperatively outside of school as well.



Creative Curriculum Activity Kits

Authors: **Brenda Landwehr and Amy Newberger**

Program: Early Childhood Family Education

The Creative Curriculum Activity Kits provides students and teachers with the materials necessary to fully implement the curriculum, and expand hands-on and meaningful learning experiences in the classroom. Imagine learning how clothing is made by weaving fabric on a loom, or investigating the concept of decomposition through a composting bin. These real life and hands on experiences are just part of the units of study that our young learners will investigate as they develop problem solving, and critical thinking skills. Research confirms that children learn the most when they are actively participating in the learning process (Katz 1994).

Mindfulness and the Brain: Creating Effective Learners

Authors: **Carla Belistri, Emily Macias, Tanya Reynolds, Ashley Sinnen**

School: Robbinsdale Spanish Immersion

Our project builds students' abilities to manage stress for effective learning. We implement Mindful Life's classroom-based programming into weekly wellness. Teachers receive training and implement weekly lessons in class. Each lesson addresses one or more of the following areas: Attention/awareness, emotional regulation, creating healthy brains, attention/impulse control, and empathy. It is essential that we give students the knowledge of how their brains work as well as the tools to control their brains and bodies. With mindfulness, they can take the initiative to make changes in their lives and improve their learning.

We will provide lifelong tools from which all students, teachers, and even families will benefit.



Observations from a new perspective!

Author: Kristine Browers

School: Plymouth Middle School

Have you ever wondered what makes up the world around you? Imagine being able to see the finest detail in everyday objects that interest you! Having access to stereo microscopes and ProScopes will provide students with opportunities to complete multiple hands-on investigations as they practice their observation skills. Students will explore new perspectives while working together to investigate the amazing features in countless samples throughout the entire school year!



The Future is Ours

Author: Melissa Laatsch

School: Sonnesyn Elementary

Adventure Academy, (a collaboration between Adventure Club, Targeted Services, and Youth Enrichment) is starting a new program called The Future is ours. Students at Sonnesyn Elementary have expressed a desire to learn more about diversity, politics and how they can make their voices heard in our community. Students will come together as a group and develop a better understanding of people that are different than themselves, improve writing skills by journaling and letters to political figures or organizations. We will use age appropriate lessons to educate students on social justice issues that matter most to them. Other key learning outcomes will be short and long-term planning, self-advocacy, understanding negotiations, research skills and building positive relationships in the community. Teaching social justice to children is crucial for preparing young people to become responsible global citizens as adults.



Let's do Lego Robotics!

Author: Cara Rieckenberg

School: School of Engineering and Arts

In our classrooms today, we are preparing our learners for careers that are yet to be created. If we continue to teach in a manner that has always been, we are doing a disservice to our future. We must provide opportunity for critical thinking, collaboration, problem solving and real life, authentic application for ALL our students. This project, Let's do Lego Robotics! meets these. In bringing the opportunity for 6, 7, 8 and 9-year-old students to design, build and computer code Lego Robotics, we are providing them with a powerful foundation that will steer them well through life.



Experimental Surgical Services Field Trip

Author: **Cami Dahlstrom**

School: Cooper High School

This grant provides field trips to the **experimental surgical services lab located at the University of MN**. The students experience hands on labs such as; suturing practice on animal tissue (e.g. pig, sheep or goat hocks), echocardiogram demonstration with a student volunteer as patient, practicing hypodermic injections using oranges or tomatoes or even going into an ESS operating room to watch an actual surgical procedure.



Ride the Toastmasters Train to Success!

Author: **Colleen Crossley**

Program: Adult Academic Program

Fear of public speaking prevents people from contributing valuable knowledge and opinions. When people express themselves well verbally, their thinking and academic performance benefits. Public speaking also boosts confidence and promotes leadership and civic engagement. For 90 years, Toastmasters has been developing confident leaders through public speaking. If awarded, grant funds will be used to establish Crystal Clear Communicators, a unique Toastmasters Club that will bring together brain injury and stroke survivors, ELLs, diploma seekers, student leaders, and others interested in meeting rigorous educational standards while developing and perfecting amazing communication, leadership, and organizational skills transferable to any employment setting.



We've Got the Whole World in Our Hands: A Virtual Reality Experience

Author: **Kris Haagenson**

District Wide

Today's students live in a time when the world is smaller than ever. One of the goals of the district vision is to "utilize curriculum and learning environments that reflect the culture and history of racial groups that reside not only in our own community, but in the rest of the world." Through the Google Expedition Virtual Reality simulations, students can immerse themselves in hundreds of three dimensional journeys to experience culture and history around the world, bringing a unique learning environment to curricular topics.



ArtVoice: Student Voice and the Arts
Author: Allison Thielen
School: FAIR School – Crystal

The project, a quarterly newspaper called ArtVoice, documenting the arts-focused learning happening in our school, is a forum for students to share their perspectives, ideas, and creativity. With the purchased cameras, student photographers would become documentarians who detail the artistic process in arts classes, performances, and in their work with artists-in-residence. Teachers are currently doing much of the documenting; it would be a powerful experience for students to take ownership, celebrating the artistic successes of their classmates in print!



Story Theater
Author: Tonya Larsen
School: School of Engineering and Arts

There's something magical that happens when people bring a story to life. Through reader's theater books and props, many stories will be performed throughout the year and beyond, by teachers and students.



Service Learning Project: Building Workbenches for the Wood-shop
Author: Michael Berner
School: Plymouth Middle School

This project organizes a service learning project to assemble the benches with students, family, and community members. The benches will afford additional storage for a student set of hand tools and student projects as well as more working space in the room. Benches and new tools will allow the wood-shop to expand into an extracurricular activity.

