

**Minneapolis-St Paul**  
**Society of American Military Engineers (SAME)**  
**Awarded Educational Grants**

**Awarded in 2018**

- **Hudson Middle School, Hudson, WI** - This grant supported the schools request to purchase equipment and materials for students to create Arduino controlled devices that use sensors, lights, motors and actuators to solve real world student selected problems. Students will apply the engineering design process to create, test, modify, and subsequently improve their devices. Students will learn basic programming language and study the interaction between hardware and software. The estimated number of participating students is 75 middle school students. The grant was for \$2,998.62.
- **Otter Lake Elementary School, White Bear Lake, MN** - The school requested funds to support a portion of a of larger program to develop an outdoor learning space to enhance their STEM focus. The primary objective of this project is to increase and strengthen the outdoor science and engineering based exploration of the natural environment. The outdoor learning space will support science and environmental programs, such as the water education Race 2 Reduce Program, pollinator prairie program, and supporting naturalists to come and share environmental programs. This project will support the 600+ population of the elementary school plus various other groups. The grant was for \$3,000.

**Awarded in 2017**

- **Sonneysn Elementary, New Hope, MN** – Grant supported the purchase of iPod touch devices to support virtual reality (VR) exploration of geology, architecture, landforms, outer space, volcanos just to name a few. The potential of this exploration is unlimited. This project support approximately 500 students in grades K through 5th. The grant was for \$3000.
- **St. Louis Park High School, St. Louis Park, MN** – Grant supported the purchase of a three dimensional printer to be used in high school engineering classes. This equipment allows to students to better explore the world of engineering and learn about forces, torques, structures, motors, robotics, control systems just to name a few. This project support approximately 80 students at the high school level. The grant was for \$3000.

**Awarded in 2016**

- **Academy for Sciences & Agriculture High School** – Robotics kits for Middle School science classes and middle school robotics team competition. First Robotics' goal is to develop ways to inspire students in engineering and technology fields. Grant for \$3000.
- **Hamline and Jie Ming Elementary** – This grant will support the purchase supplemental Engineering is Elementary units and materials. STEM materials will promote deeper learning through hands on laboratory experiences. Students will develop greater comprehension of science and engineering concepts as they relate to real world problems and solutions. “Engineering is Elementary” science kits for \$2950.

- **Valley Middle School of STEM** – Grant funds will be used to support 7 schoolwide STEM challenges. (1) Moon Rockets-Design and build an air-powered rocket that can accurately hit a target from a distance of 12 feet. (2) Touchdown-Create a landing platform that will safely cushion the lunar module's landing. (3) Moon Rover-Build a rubber band powered vehicle that can traverse the moon's surface. (4) Heavy Lifting-Construct a cardboard crane that can be used to load moon rocks. (5) On Target-Design and build a zip line system that can accurately drop a marble on a target. (6) Nano Testing-Create an obstacle course that your Nano Hexbug can successfully complete. (7) Totally Lunar-Create a lunar community that includes: map of the lunar surface, a greenhouse, homes, community center, park, landing zone, and communications center. Seven schoolwide STEM activities for \$2234.
- **Math and Science Academy** – Supplies for three different STEM stations, geology, electronic circuits, digital microscopes/slides. Supplies for STEM stations for \$413.

#### Awarded in 2015

- **Elmwood Schools, Elmwood, WI** – 10 Graphing Calculators for \$1278. Approximately 105 Senior High students will benefit from this grant.
- **Farnsworth Aerospace** – Lego NXT Equipment for \$2720. Approximately 200, sixth through eighth grade students will benefit from this grant.
- **Rosemount Elementary** – 11 Chrome Notebooks for \$2959. Approximately 30, fifth graders will benefit from this grant.
- **Valley Middle School** – Bridge to support hot wheels cars, track for \$1650. 850 plus middle school students will benefit from this assistance.
- **Additional Recipient** – Green Girls robotics club – \$400 to support trip to World Adolescent Robotics Competition in Beijing, China. About 8 fine young ladies will benefit from this grant.

#### Awarded in 2014

- **Beacon Preparatory School, Bloomington, MN** – Awarded \$3,065.00 to purchase Lab Quest tablets, software and multiple scientific measurement devices to study thermal energy and state changes, CO2 and functions of living creatures and “What’s in our Water?” This project supports approximately 200 students in the 6th through 8th grade levels.
- **Pilot Knob STEM Magnet School, Eagan, MN** – Awarded \$2,095 to purchase a weather station. The station will be used to conduct a school wide year long project on local weather and seasonal changes. This project supports approximately 350 students in the Kindergarten through 4th grade levels.
- **Edgewood Middle School, Mounds View, MN** – Awarded \$1,200 for the school to purchase materials and equipment to be used for the National Engineers Week in 2015. Examples include but are not limited to Gumdrop Dome, Build Your Own Robot Arm, and Radioactive Golf Balls. This project supports approximately 600 students in the 6th through 8th grade levels.
- **Elmwood High School, Elmwood, WI** – Awarded \$2,716.94 to purchase 19 organ and organ system models for the schools transcript advanced biology class. The models can

show the damage to body associated with plaque buildup and obesity. This project supports approximately 30 students in the 12th grade level.

### Awarded in 2013

- **McGuire Middle School, Lakeville, MN** – Awarded \$718.00 to acquire materials for a Marble Roller Coaster Project. This project will aid approximately 320 students to learn the physics concepts of kinetic and potential energy, friction and gravity. The participating grade level is 6.
- **Elmwood High School, Elmwood, WI** – Awarded \$2,835.84 to acquire iPads to create an electronic portfolio of a forest. The species, location and attributes of the forest will be mapped and examined. This project will support approximately 20 students in the 11th and 12th grades.
- **Willow Lane Elementary, White Bear Lake, MN** – Awarded \$3,000.00 to acquire iPads to be used with the iSTEM and iStrive features to study physics, biological, mathematical and engineering concepts. This project will support 60+ students at the 2nd grade level.
- **Math & Science Academy, Woodbury, MN** – Awarded \$1,250.00 to support the “Fighting Calculators” robotics team. The funds will allow the team to mentor newer teams participating in the robotics competition. This project will support approximately 45 students in the 9th through 12th grade.
- **Andover High School, Andover, MN** – Awarded \$1,250 to support the purchase of equipment for an Anatomy and Physiology course. The equipment will enhance the understanding of how human biological systems can be supported with scientific and engineering solutions. This project will support approximately 70 students in the 11th and 12th grades.

### Awarded in 2012

- **Sunrise Park Middle School, White Bear Lake, MN** – Awarded \$2,500.00 to purchase laptops computers and robotic kits to expand and improve the LEGO robotics program as an extracurricular activity for approximately 50 students. The participating grade level is 6-8.
- **Cottage Grove Middle School, Cottage Grove, MN** – Awarded \$2,500.00 to purchase six iPads to be used to attract and engage students in math, science, and technology. This equipment will increase the use of technology during their scientific investigations allows students to instantly access their project, research, online lessons and the new interactive textbooks. In excess of 400 students will have access to this equipment. The participating grade level is seventh.
- **Math & Science Academy, Woodbury, MN** – Awarded \$2,175.00 to purchase equipment to support the "Fighting Calculators" team in mentoring and outreach other potential teams in the surrounding area. The equipment will be used to set up demonstrations at different schools and events with the intent to promote and recruit new members for the FIRST (For Inspiration and Recognition of Science and Technology) Robotics Competition. Approximately 30 students are a part of the “Fighting Calculators.” The participating grade level is 9-12.

### Awarded in 2011

- **Rice Lake Elementary School, Lino Lakes, MN** – Awarded \$1,841.50 to purchase a stormwater simulation system and supplies to educate students on the environmental impacts of stormwater runoff and how to manage it in a more eco-friendly manner. The annual number of participants is expected to be 48 students. The participating grade level is first grade.
- **Lakeview Elementary School, Lakeville, MN** – Awarded \$2,182.50 to support taking 120 students to an event at the Minnesota Planetarium Exploradome and to purchase a computerized telescope. The participating grade level is third grade.
- **Math & Science Academy, Woodbury, MN** – Awarded \$2,118.00 to purchase parts for a robotics project to support the "Fighting Calculators" 18 person team to construct a robot that will be used for competitions and educate others about mathematics, physics and engineering principals. Currently 18 students are directly affected, in addition to younger students exposed through outreach activities. The participating grade level is 9-12.

### Awarded in 2010

- **Harriet Bishop Elementary School, Savage, MN** – Awarded \$2,355.73 to purchase two HydroGeology Stream Tables to study the forces that shape the land, and also introduce students to the engineering involved in building dams, levees, and generating hydroelectric power. The stream tables will be used annually in the science program and shared with other district schools. The participating grade level is fifth grade, with approximately 100 kids benefitting.
- **City View Performing Arts Magnet, Minneapolis, MN** – Awarded \$1,125.00 to create a 10 Step Rube Goldberg project incorporating simple machines which also includes a field trip to "The Works" museum. The "Rube Goldberg" project is part of the Gateway to Technology (GTT) engineering course offered after school and in the summer. Approximately 20 students are benefitted by this grant. The participating grade level is 6-8.
- **Park Avenue Youth & Family Services, Minneapolis, MN; Tronix Team** – Awarded \$1,346.87 to support the creation of a "Lunchbox Boombox." The objectives of the Tronix program is to (1) Foster and interest in science and technology, (2) Maintain contact / follow up with Tronix participants and track progress and (3) Recruit former Tronix participants to become Junior instructors. Approximately 30 students are benefitted by this grant. The participating grade level is 6-8.

### Awarded in 2009

- **Willow Lane Elementary, White Bear Lake, MN** – Awarded \$1,845.00 to establish a community garden that the entire school will participate in designing, constructing, planting, maintaining, harvesting, and replanting. This project supports the principles of mathematics, engineering and biology. The entire school's population of 350+ benefits from this grant. The participating grade level is K-5.
- **Arlington BioSMART High School, St. Paul, MN** – Awarded \$2,400 to purchase 6 programmable robotic arms and six computers through the MN Computers for Schools program. This equipment is to support the schools purpose in introducing students to the

bio industries, particularly in the medical and health sciences and engineering technology. Approximately 125 students are benefitted by this grant annually. The participating grade level is 10-12.