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MATHEMATICS

MISF's STEM Program builds on the foundation of its Math & Science Education Initiative, which started in 2004. Today, the MISF STEM Program has three primary components:

- **Providing teacher professional development** through the annual STEM Education conference.
- **Supporting high-quality and innovative STEM learning in schools** through the STEM Grant Program.
- **Facilitating access to community resources** to support STEM teaching and learning.

MISF believes that high-quality STEM education prepares young people to be engaged citizens of the world and creates opportunities for future careers in STEM and other fields that depend on skills developed through STEM learning.

An Advisory Committee with expertise and vested interest in high-quality STEM Education supports MISF's STEM Program

- Greg Chamberlain, Xcel Energy (Committee Chair)
- Vikram Ghosh, Ardent Mills
- Jennifer Krieger, Holy Spirit School
- Mark Lamps, Pentair
- Sumita Mitra, Mitra Chemical Consulting & 3M (Retired)
- Debbie Monson, University of St. Thomas
- Doug Paulson, Minnesota Department of Education
- K. Benjamin Richter, 3M
- Justin Spencer, The Bakken Museum
- Jorge Ulate, General Mills

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The focus of today's presentation is the STEM Grant Program, and we hope to accomplish the following:

1. Strengthen your knowledge of the program, its funding criteria, and what makes a strong proposal
2. Answer your questions and provide feedback on your project ideas

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Since the STEM Grant Program was created in 2008-09,

191 grants have been awarded

for a grand total of nearly $1,000,000

The next few slides include photos of STEM grant projects from the past few years.

8th Graders Building Robots to Help those in Need

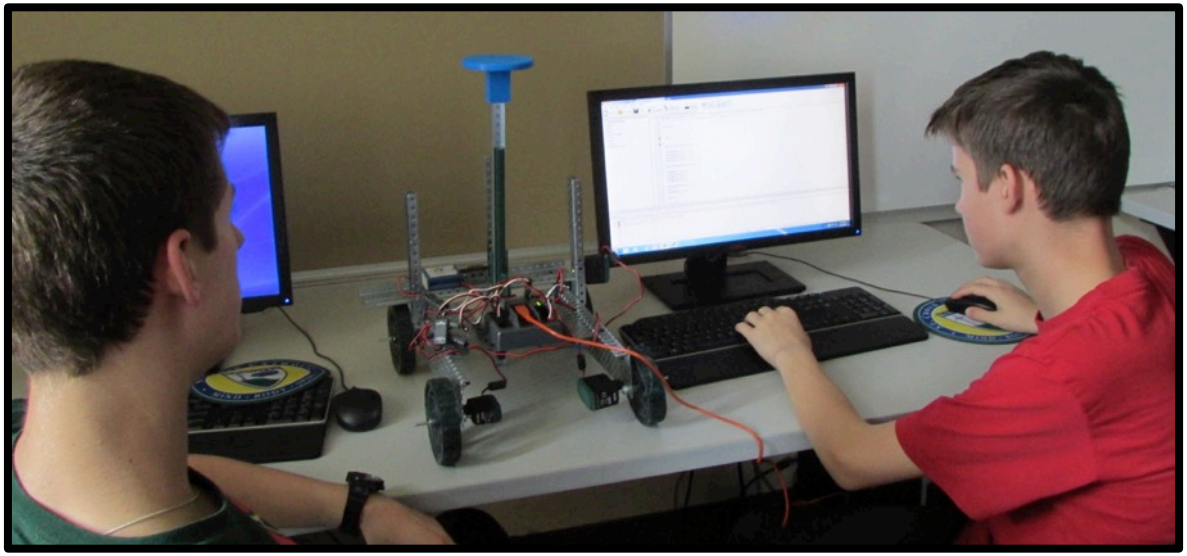


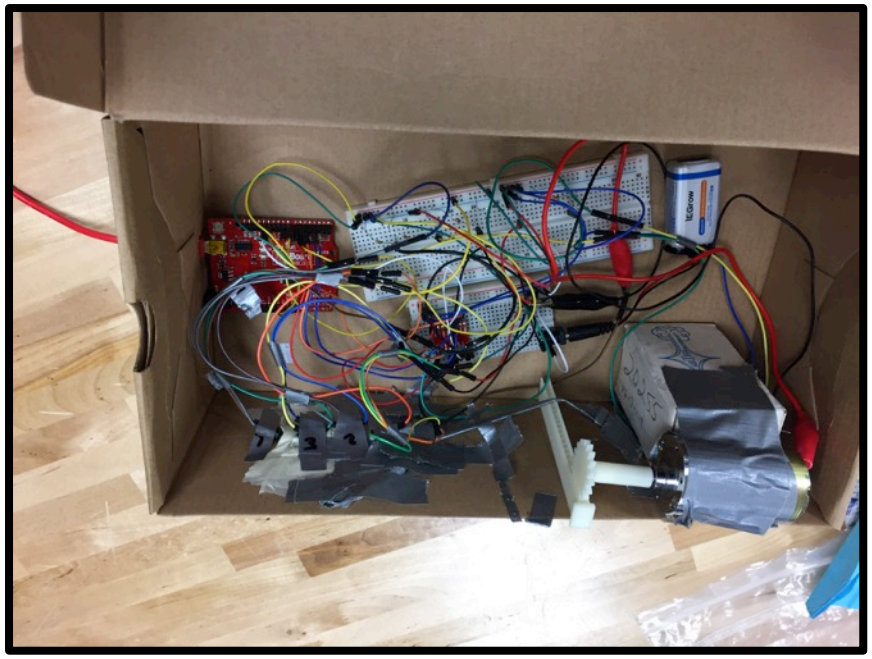
Photo credit: St. Croix Catholic School, Stillwater

Teaching STEM through Gardens & Greenhouses

Photo credits: Academy of Whole Learning, St. Louis Park and The Way of the Shepherd, Blaine

Photo credit: Winona Area Catholic Schools

Elementary students learning through failure: Building Rube Goldberg Machines



Computer & Electrical Engineering in Middle & High School

Photo credit: St. Mark's Catholic School, St. Paul & Totino Grace, Fridley

and of course, Maker Spaces at all grade levels

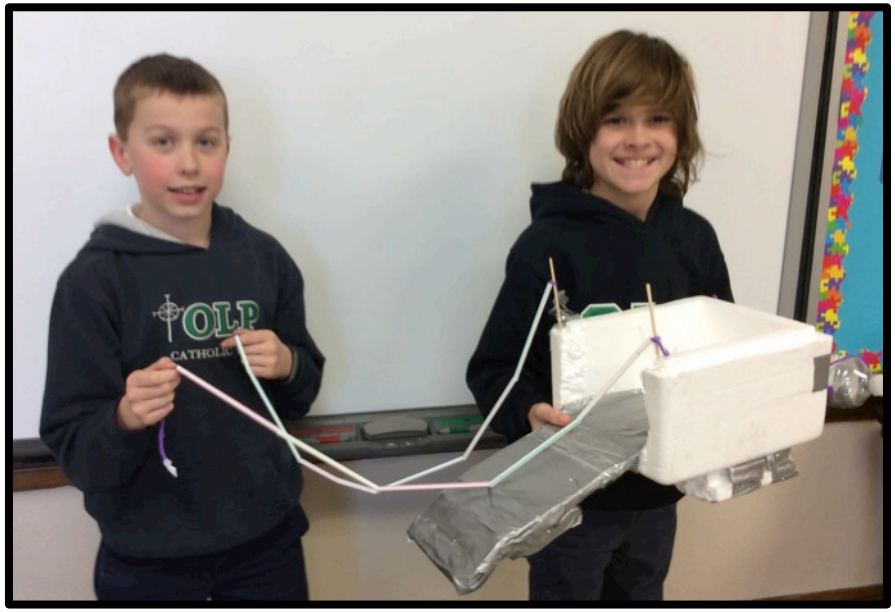


Photo credit: Heritage Christian Academy, Maple Grove, Our Lady of Peace, Minneapolis; & St. Joseph's School, West St. Paul

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STEM Grant are divided into three types:

Starter Grants help member schools who have never received a STEM Grant launch or enhance STEM learning. Maximum is $1,500 used for materials, curriculum, and teacher professional development.

Innovation Grants support schools in implementing promising plans for new programs, courses and curricula that will lead to long-term STEM learning opportunities for students. Maximum is $7,500 and can be used for materials, curriculum, professional development, and summer stipends for teachers.

Sustainability Grants recognize successful previously-funded projects by supporting their continued implementation with a new group of students. Maximum is 20% of the original grant award, used for materials and supplies.

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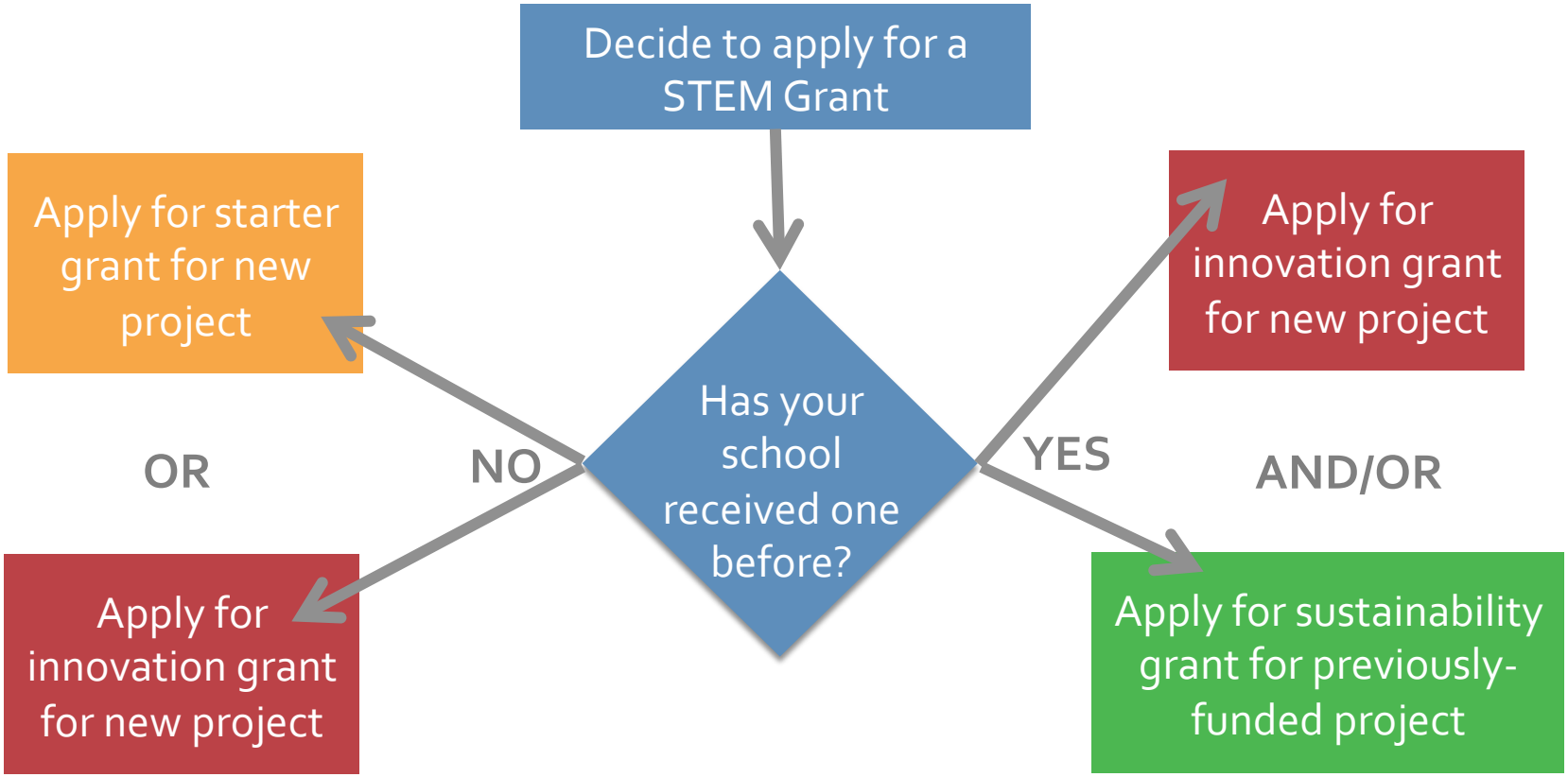

Letters of Interest due in January, full proposals due in February.

A successful STEM Innovation Grant Proposal…

- **Aligns with relevant and accepted standards** such as: science & engineering practices, crosscutting concepts, and core ideas (*A Framework for K-12 Science Education*); MN Academic Standards in Science; etc.
- Includes **formative and summative assessment** to guide real-time project improvements, measure project success, and identify opportunities for improvement.
- Recognizes the importance of **teacher professional development and planning time** to develop new courses/curricula.
- Makes **real world connections**, emphasizing the value and relevancy of STEM skills and knowledge in the world, including STEM career exploration.
- Builds meaningful **community partnerships** between the school and other organizations such as nonprofits, higher-education institutions or businesses.
- Lays a foundation for **continuation and/or expansion** of the STEM program at the recipient school.

Innovation Grant Proposals require a team of two or more teachers, with one identified as the lead teacher. If the proposal is funded, the lead teacher:

- Serves as the **point of contact** between the school(s) and MISF.
- Ensures that all **required documentation** is filed with MISF, including:
  - Curriculum documentation (August)
  - Final report with expense documentation (May/June)
- Ensures attendance of the project teaching team at the **MISF STEM Education Conference**.
- Works with MISF to schedule and **host a site visit** to see the project in action, if requested.
- Is willing to **share their project** at a future STEM Education Conference.

Strong Innovation Grant Proposals…

- **Are multidisciplinary**, bringing together content and teachers from across the curriculum
- **Justify any expensive items** in the budget that are important to the project
- **Involve community partner(s)** in meaningful ways
- Articulate how implementation of the project will **bring value to the school** beyond funding duration

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Still have questions?

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