STARBASE Minnesota STEM inventory

A listing of programs to support students’ interest and enthusiasm in science, technology, engineering, and math
The STARBASE Minnesota STEM Inventory was compiled by Wilder Research as part of a long-term follow-up study of STARBASE Minnesota participants. From summer to winter 2010, Wilder Research collected information from organizations through a STEM inventory instrument. For study purposes, in order to learn how to best support STARBASE students’ interest and enthusiasm in STEM after STARBASE, the inventory emphasized programs serving 4th-12th grade students in the St. Paul area, although the final inventory also includes information on a number of programs serving other parts of the Twin Cities metro area, the state as a whole, and other populations. Inventory respondents were identified through attendance at a STEM Community of Practice meeting, and suggestions for additional respondents were requested through the inventory tool itself. This list should be viewed as a starting point and not an exhaustive list of St. Paul-area STEM programs. For purposes of this directory, index categories were created by Wilder Research staff. Researchers categorized programs according to the index categories to the best of their ability based on the information provided.

Prepared by:
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Saint Paul, Minnesota 55104
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For more information on the STEM inventory contact: Kim Van Wie, STARBASE Minnesota Executive Director, 612-713-2530 or kvanwie@starbasemn.org.
www.starbasemn.org
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</tr>
</thead>
<tbody>
<tr>
<td><strong>Contact Information:</strong></td>
<td></td>
</tr>
<tr>
<td>Mike Lewandowski</td>
<td>Telephone: Not available</td>
</tr>
<tr>
<td>Chair, 3M TWIST Program</td>
<td>Email: <a href="mailto:malewandowski@mmm.com">malewandowski@mmm.com</a></td>
</tr>
<tr>
<td>3M Center, Building 220-06-W-08</td>
<td>Program website: Not available</td>
</tr>
<tr>
<td>St. Paul, MN 55144-1000</td>
<td></td>
</tr>
<tr>
<td><strong>Mission:</strong></td>
<td>Multinational manufacturer</td>
</tr>
<tr>
<td><strong>Offers STEM Programs/Services for 4th-12th Grade Students:</strong></td>
<td>Yes</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Program Name: 3M TWIST (Teachers Working in Science and Technology)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description:</strong> A summer internship program for middle and high school science, math, and technology teachers. Teachers work on projects and attend lunch-hour sessions on intellectual property, new product development, and other topics.</td>
</tr>
<tr>
<td><strong>Goals:</strong> Provide an industrial lab experience for teachers so they see how science is used in a business setting, exposure to teamwork, and interdisciplinary project work.</td>
</tr>
<tr>
<td><strong>Areas:</strong> Science, Technology, Engineering, Math</td>
</tr>
<tr>
<td><strong>Primary Population Served:</strong></td>
</tr>
<tr>
<td>Age: Teachers of grades 7-12</td>
</tr>
<tr>
<td>Gender: Both</td>
</tr>
<tr>
<td>Race: All</td>
</tr>
<tr>
<td>Socioeconomic status: All</td>
</tr>
<tr>
<td>Geography: Metro-wide area and selected communities with 3M facilities; contact TWIST Program to verify participation.</td>
</tr>
<tr>
<td><strong>Outreach to Particular Group:</strong></td>
</tr>
<tr>
<td><strong>Outreach Group(s):</strong> Partner school districts, then open to all interested teachers.</td>
</tr>
<tr>
<td><strong>Eligibility Criteria:</strong> Partner school districts, then open to all interested teachers.</td>
</tr>
<tr>
<td><strong>Barriers to Participation:</strong> Teachers must provide their own transportation to 3M.</td>
</tr>
<tr>
<td><strong>Number of Participants in 2009:</strong></td>
</tr>
</tbody>
</table>
**Organization:** 3M  
**Type:** Business/industry

**Contact Information:**
Rick Rossiter  
201-1W-29, 3M Center  
St. Paul, MN 55144-1000  
Telephone: 651-733-4737  
Email: rcrossiter1@mmm.com  
Program website: Not available

**Mission:** Multinational manufacturer

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

### Program Name: 3M STEP

**Description:** Program is a partnership between 3M and Saint Paul Public Schools, and includes 1) classroom instruction from 3M professionals during the school year; 2) a summer job in one of the 3M laboratories or offices working on 3M projects; and 3) a mentoring program with a 3M person for the duration of the program.

**Goals:** The program's main goal is to provide a diverse array of students with an opportunity to explore applied science-related careers in an engaging way. A secondary goal is to provide 3M staff with temporary assistance to generate data, and to provide them with mentoring and leadership opportunities.

**Areas:** Science (Chemistry, Physics, Biochemistry)  
Technology (Technologies based on Chemistry, Physics, Biochemistry)  
Engineering (Chemical, Mechanical)  
Math (As needed--mainly Proportionality, Linear Equations)  
Other (Communications, Spreadsheets, Word-processing)

**Primary Population Served:**
- Age: Grades 11-12  
- Gender: Both  
- Race: All  
- Socioeconomic status: All  
- Geography: St. Paul

**Age categories:** High school  
**Region categories:** St. Paul  
**Metro Area

**Outreach to Particular Group:** No

**Outreach Group(s):** Not applicable

**Eligibility Criteria:** Participants must attend Saint Paul Public Schools in grades 11-12 and have a GPA greater than 2.0.

**Barriers to Participation:** The program has eligibility criteria. Also, participants must provide their own transportation to 3M Center in the summer, have sufficient awareness/confidence to apply for the program, meet application deadlines, represent themselves well on a written application, and be able to make up any missed schoolwork during Part 1 of the program.

**Number of Participants in 2009:** 36
**Organization:** 3M  
**Type:** Business/industry  

**Contact Information:**  
E. Hubble Werre  
Advanced Project Engineer  
3M Center, 275-6E-23  
Maplewood, MN 55105  

**Mission:** Multinational manufacturer  

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes  

<table>
<thead>
<tr>
<th>Program Name: Technical Teams Encouraging Career Horizons (TECH)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description:</strong> A 3M-originated science encouragement program that pairs employees with local classrooms to talk about science and engineering careers in order to help school kids understand what a scientist does, why it's exciting, and what steps they need to take.</td>
</tr>
<tr>
<td><strong>Goals:</strong> Encourage students of all genders and races to consider careers in science, engineering, and technology.</td>
</tr>
</tbody>
</table>
| **Areas:** Science (Careers)  
Technology (Careers)  
Engineering (Careers)  
Math (Careers)  

**Primary Population Served:**  
Age: Grades 6-9 are primary focus, but visit classes ranging from Grade 4 to secondary schools.  
Gender: Both  
Race: All  
Socioeconomic status: Not available  
Geography: Primarily focus around the east side of the metro area, but have conducted visits throughout the Twin Cities area.  

<table>
<thead>
<tr>
<th>Age categories:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary</td>
</tr>
<tr>
<td>Junior high</td>
</tr>
<tr>
<td>High school</td>
</tr>
<tr>
<td>Region categories:</td>
</tr>
<tr>
<td>St. Paul</td>
</tr>
<tr>
<td>Metro Area</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Outreach to Particular Group: Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outreach Group(s): Science teachers.</td>
</tr>
<tr>
<td>Eligibility Criteria: Open to schools.</td>
</tr>
<tr>
<td>Barriers to Participation: No barriers to participation. During the 2008-09 school year, visited 48 teachers for 158 classes totaling around 6,365 students and had 95 registered volunteers.</td>
</tr>
</tbody>
</table>

**Number of Participants in 2009:** 6,365
<table>
<thead>
<tr>
<th><strong>Organization:</strong> 3M</th>
<th><strong>Type:</strong> Business/industry</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Contact Information:</strong></td>
<td></td>
</tr>
<tr>
<td>Corrine Ivie</td>
<td>Telephone: 651-733-2508</td>
</tr>
<tr>
<td>Program Administrator</td>
<td>Email: <a href="mailto:ceivie@mmm.com">ceivie@mmm.com</a></td>
</tr>
<tr>
<td>220-7E-06, 3M Center</td>
<td>Program website: <a href="http://www.3m.com/wizards">http://www.3m.com/wizards</a></td>
</tr>
<tr>
<td>St. Paul, MN 55144-1000</td>
<td></td>
</tr>
</tbody>
</table>

**Mission:** Multinational manufacturer

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

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**Program Name: 3M Visiting Wizards**

**Description:** Provides interesting demonstrations/hands-on activities to show that "science is fun."

**Goals:** The goal of the 3M Visiting Wizards program is to encourage young people to become interested in science and technology by providing interesting educational demonstrations and hands-on experiments on a variety of science topics.

**Areas:** Science (Kits on Chemistry, Matter, Electricity, Magnets, and Others)

Engineering (Kits on Catapults, Concrete)

Math (Kit on Statistics)

**Primary Population Served:**

<table>
<thead>
<tr>
<th>Age: Grades K-5</th>
<th>Age categories: Elementary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender: Both</td>
<td>Region categories: St. Paul</td>
</tr>
<tr>
<td>Race: All</td>
<td>St. Paul</td>
</tr>
<tr>
<td>Socioeconomic status: All</td>
<td>Metro Area</td>
</tr>
<tr>
<td>Geography: Mainly St. Paul</td>
<td></td>
</tr>
</tbody>
</table>

**Outreach to Particular Group:** No

**Outreach Group(s):** Not applicable

**Eligibility Criteria:** K-5, but not limited to these grade levels (dependent on the volunteer).

**Barriers to Participation:** No barriers; requests can be made at [www.3m.com/wizards](http://www.3m.com/wizards).

**Number of Participants in 2009:** Documented 330 volunteers reaching 25,618 students, with an estimated 50% rate of filling out evaluations.
<table>
<thead>
<tr>
<th>Organization:</th>
<th>Aerospace Engineering and Mechanics Department, University of Minnesota</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact Information:</td>
<td></td>
</tr>
<tr>
<td>James Flaten</td>
<td>Telephone: Not available</td>
</tr>
<tr>
<td>Associate Director</td>
<td>Email: <a href="mailto:flaten@aem.umn.edu">flaten@aem.umn.edu</a></td>
</tr>
<tr>
<td>Minnesota Space Grant Consortium (MnSGC)</td>
<td>Program website: <a href="http://www.aem.umn.edu/msgc/">http://www.aem.umn.edu/msgc/</a></td>
</tr>
<tr>
<td><strong>Mission:</strong></td>
<td>The mission of the MnSGC is to provide a driving force for aerospace education in Minnesota. Program goals and objectives include diversity, competitiveness coupled with accessibility, ties with NASA centers and enterprises, and relationships with industry and state government. The MnSGC supports a variety of projects including pre-college activities in math and science, student research, program development, and fellowships and scholarships for students at its 13 academic affiliate institutions of higher learning and public outreach.</td>
</tr>
<tr>
<td><strong>Offers STEM Programs/Services for 4th-12th Grade Students:</strong></td>
<td>Yes</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Program Name:</th>
<th>Space Grant Consortium</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description:</strong></td>
<td>MnSGC supports K-12 outreach upon request in the form of classroom visits, assemblies, teacher workshops, in-service day presentations. The MnSGC has involved K-12 classrooms in research projects such as balloon launches.</td>
</tr>
<tr>
<td><strong>Goals:</strong></td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Areas:</strong></td>
<td>Engineering</td>
</tr>
</tbody>
</table>

| **Primary Population Served:** | |
| Age: Teachers, Students K-12 | Age categories:<br> Elementary<br> Junior high<br> High school<br> Teachers |
| Gender: Not available | |
| Race: Not available | Region categories:<br> St. Paul<br> Minneapolis<br> Metro Area |
| Socioeconomic status: Not available | |
| Geography: Not available | |

| **Outreach to Particular Group:** | No |
| **Outreach Group(s):** | Not applicable |
| **Eligibility Criteria:** | No |
| **Barriers to Participation:** | No |
| **Number of Participants in 2009:** | 500 |
### Organization:  
Alpha Chi Sigma (AXE) Chemistry Fraternity, University of Minnesota

### Type:  
Education institution

### Contact Information:
Not available  
Telephone: Not available  
Email: axebeta@gmail.com  

### Mission:  
Alpha Chi Sigma is one of a kind. Following the original concept for a fraternity as an academic organization, we are the only Professional Chemistry Fraternity. Over 100 years old with over 56,000 members, we bring together men and women pursuing a wide variety of chemistry-related careers.

### Offers STEM Programs/Services for 4th-12th Grade Students:  
Yes

### Program Name: Chemistry Shows

#### Description:
Presentation, classroom visit.

#### Goals:
Have fun with chemistry!

#### Areas:
Science

#### Primary Population Served:
- **Age:** Students, All ages
- **Gender:** Not available
- **Race:** Not available
- **Socioeconomic status:** Not available
- **Geography:** Not available

#### Age categories:
- Elementary
- Junior high
- High school

#### Region categories:
- St. Paul
- Minneapolis
- Metro Area

### Outreach to Particular Group:
Not applicable

### Outreach Group(s):
Not applicable

### Eligibility Criteria:
Not applicable

### Barriers to Participation:
Not applicable

### Number of Participants in 2009:
500
**Organization:** American Chemical Society, Minnesota Section  
**Type:** Nonprofit

<table>
<thead>
<tr>
<th>Contact Information:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Philippe Buhlmann, Ph.D.</td>
</tr>
</tbody>
</table>

| Telephone: | 612 624-1431  
| Email: | pbuhlmann@gmail.com  
| Program website: | Not available  

**Mission:** The mission of the American Chemical Society is to advance the broader chemistry enterprise and its practitioners for the benefit of Earth and its people.

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

**Program Name:** Chemists-in-the-Library

**Description:** Our Chemists-in-the-Library program is a volunteer effort of chemistry students, teachers, and professionals to bring the fun and wonder of chemistry to kids age 6 and up. We visit libraries in the Minneapolis and St. Paul area and help kids with a variety of easy-to-do, hands-on chemistry activities.

**Goals:** To bring the fun and wonder of chemistry to kids age 6 and up.

**Areas:** Science (Chemistry)

**Primary Population Served:**
- **Age:** Ages 6 and up  
- **Gender:** Both  
- **Race:** All  
- **Socioeconomic status:** All  
- **Geography:** Twin Cities  

**Age categories:** Elementary  
**Region categories:** St. Paul  
**Minneapolis**  
**Metro Area**

**Outreach to Particular Group:** Yes

**Outreach Group(s):** Libraries in the Twin Cities area (community libraries as well as Minneapolis and Saint Paul central library).

**Eligibility Criteria:** Everyone coming to a library is welcome.

**Barriers to Participation:** Must come to a library.

**Number of Participants in 2009:** 500
Organization: American Chemical Society, Minnesota Section

Type: Nonprofit

Contact Information:
Jerry Kersten (retired)
434 Meadowood Ln.
Burnsville, MN 55337

Telephone: 952-736-7868
Email: jerry-kersten@comcast.net
Program website: Not available

Mission: The mission of the American Chemical Society is to advance the broader chemistry enterprise and its practitioners for the benefit of Earth and its people.

Offers STEM Programs/Services for 4th-12th Grade Students: Yes

Program Name: Kids & Chemistry

Description: At selected schools where we can get enough chemist volunteers we provide students with hands-on experiments four times a year. This is mostly 5th grade, but one 4th grade class. We do all the classes at the grade level in each school we visit. We do four different experiments. We incorporate math and vocabulary words in the program as well as some humor. (A pirate opens a vegetable stand on the corner. What does he charge for corn on the cob? … A bucaneer.)

Goals: To bring the fun and wonder of chemistry to kids in 5th grade plus or minus one year. Give kids a hands-on introduction to the scientific method and a fun experience doing science stuff so when they get to where they can make subject choices they will choose science subjects.

Areas: Science (Chemistry)

Primary Population Served:
Age: Grade 5 + or - one grade
Gender: Both
Race: All
Socioeconomic status: All
Geography: Twin Cities and suburbs

Age categories: Elementary
Region categories: St. Paul
Minneapolis
Metro Area

Outreach to Particular Group: No

Outreach Group(s): Not applicable

Eligibility Criteria: Students in the classroom.

Barriers to Participation: Not available

Number of Participants in 2009: 800 plus students in 30 classrooms
Organization: Astronomy Department, University of Minnesota

Type: Education institution

Contact Information:
Jennifer Delgado
Outreach Coordinator

Telephone: Not available
Email: delgado@astro.umn.edu
Program website: http://www.astro.umn.edu/outreach/pubnight/

Offers STEM Programs/Services for 4th-12th Grade Students: Yes

Program Name: Public Observing Nights

Description: Held on Friday nights during the fall and spring semesters, astronomy graduate students invite you to join them at the University for some rooftop astronomy (weather permitting). Also available on request.

Goals: Learn about astronomy.

Areas: Science

Primary Population Served:
Age: All ages
Gender: Not available
Race: Not available
Socioeconomic status: Not available
Geography: Not available

Age categories: Elementary
Junior high
High school
Region categories: St. Paul
Minneapolis
Metro Area

Outreach to Particular Group: Open to the general public.

Outreach Group(s): Not applicable

Eligibility Criteria: Not applicable

Barriers to Participation: Must provide own transportation.

Number of Participants in 2009: Not available
<table>
<thead>
<tr>
<th>Organization:</th>
<th>Astronomy Department, University of Minnesota</th>
<th>Type:</th>
<th>Education institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact Information:</td>
<td>Telephone: Not available</td>
<td>Email: <a href="mailto:delgado@astro.umn.edu">delgado@astro.umn.edu</a></td>
<td>Program website: <a href="http://www.astro.umn.edu/outreach/presentations/">http://www.astro.umn.edu/outreach/presentations/</a></td>
</tr>
<tr>
<td>Jennifer Delgado</td>
<td>Outreach Coordinator</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Offers STEM Programs/Services for 4th-12th Grade Students:</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Program Name:** Public Presentations

**Description:** Astronomy faculty members and graduate students are always eager to share their knowledge and interest in astronomy.

**Goals:** Learn about astronomy.

**Areas:** Science

**Primary Population Served:**

- **Age:** Grades 4-12
- **Gender:** Not available
- **Race:** Not available
- **Socioeconomic status:** Not available
- **Geography:** Not available

**Age categories:**

- Elementary
- Junior high
- High school

**Region categories:**

- St. Paul
- Minneapolis
- Metro Area

**Outreach to Particular Group:** No

**Outreach Group(s):** Not applicable

**Eligibility Criteria:** None

**Barriers to Participation:** None

**Number of Participants in 2009:** 2,000
<table>
<thead>
<tr>
<th>Organization: Astronomy Department, University of Minnesota</th>
<th>Type: Education institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact Information: Karl Isensee</td>
<td>Telephone: Not available</td>
</tr>
<tr>
<td>Email: <a href="mailto:isensee@astro.umn.edu">isensee@astro.umn.edu</a></td>
<td>Program website: <a href="http://www.astro.umn.edu/outreach/uitp/">http://www.astro.umn.edu/outreach/uitp/</a></td>
</tr>
<tr>
<td>Offers STEM Programs/Services for 4th-12th Grade Students: Yes</td>
<td></td>
</tr>
</tbody>
</table>

**Program Name: Universe in the Park**

**Description:** A summer outreach program at parks around the metro area at which students from astronomy give a short public talk about a topic in astronomy. Free star maps are given out and, weather permitting, telescopes are set up for viewing the night sky.

**Goals:** Learn about stargazing.

**Areas:** Science

**Primary Population Served:**

- **Age:** All ages
- **Gender:** Not available
- **Race:** Not available
- **Socioeconomic status:** Not available
- **Geography:** Not available

- **Age categories:**
  - Elementary
  - Junior high
  - High school

- **Region categories:**
  - St. Paul
  - Minneapolis
  - Metro Area

**Outreach to Particular Group:** Open to the general public at no charge.

**Outreach Group(s):** Not applicable

**Eligibility Criteria:** None

**Barriers to Participation:** Must provide own transportation.

**Number of Participants in 2009:** 200
<table>
<thead>
<tr>
<th>Organization:</th>
<th>Astronomy Department, University of Minnesota</th>
<th>Type:</th>
<th>Education institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact Information:</td>
<td>Not available</td>
<td>Telephone:</td>
<td>Not available</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Email:</td>
<td>Not available</td>
</tr>
</tbody>
</table>

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

**Program Name:** Minnesota Starwatch online monthly newsletter and Podcast

**Description:** Minnesota Starwatch, designed to inform the broadest possible community of the appearance of the nightly sky and current activities.

**Goals:** Not available

**Areas:** Science

**Primary Population Served:**
- **Age:** All ages
- **Gender:** Not available
- **Race:** Not available
- **Socioeconomic status:** Not available
- **Geography:** Not available

**Region categories:**
- St. Paul
- Minneapolis
- Metro Area
- Greater Minnesota

**Outreach to Particular Group:** Not available

**Outreach Group(s):** Not available

**Eligibility Criteria:** Not available

**Barriers to Participation:** Not available

**Number of Participants in 2009:** Not available
Organization: Augsburg - GEMS (Girls in Engineering, Math, and Science)  
Type: Education institution

Contact Information:  
Jeanine Gregoire, Ph.D.  
Director of Nasa Space Grant Program  
Augsburg College  
2211 Riverside Avenue South  
Minneapolis, MN 55454

Telephone: 612-330-1551  
Email: gregoire@augsburg.edu  
Program website:  
http://www.augsburg.edu/nasa_space_grant/gems.html

Mission: GEMS is an after-school science, math, and technology enrichment project for young women (grades 4-8) in Minneapolis, Minnesota. The Augsburg NASA Space Grant Program has worked closely with Dr. Brad Blue, Minneapolis Public School science/math teacher, and parents and teachers to develop, implement, and evaluate this program. The goal of GEMS is to give young urban women a greater understanding of complex problem solving while learning and using technology, science, and mathematics.

Offers STEM Programs/Services for 4th-12th Grade Students: Yes

Program Name: GEMS Summer Program

Description: A districted GEMS summer program takes place annually at Augsburg College. In the summer, this free science, mathematics, and technology program brought together 120 middle school girls from the Minneapolis Public Schools on Tuesdays and Thursdays to learn about monarch butterfly research, developing robots, and programming them to do various tasks using Lego-Logo, and creating and developing e-musik. During this summer program, undergraduate students from Augsburg College work closely with science and technology teachers from Minneapolis public schools to teach and facilitate student learning.

Goals: The goal of GEMS is to give young urban women a greater understanding of complex problem solving while learning and using technology, science, and mathematics.

Areas: Science  
Engineering  
Math

Primary Population Served:  
Age: Grades 4-8  
Gender: Female  
Race: All  
Socioeconomic status: All, focus on urban students  
Geography: Minneapolis  
Age categories:  
Elementary  
Junior high  
Region categories:  
Minneapolis  
Metro Area

Outreach to Particular Group: Not available

Outreach Group(s): Not available

Eligibility Criteria: Minneapolis Public Schools, grades 4-8.

Barriers to Participation: Not available

Number of Participants in 2009: Not available
<table>
<thead>
<tr>
<th>Organization:  BAE Systems</th>
<th>Type:  Business/industry</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Contact Information:</strong></td>
<td></td>
</tr>
<tr>
<td>Wil Brown</td>
<td>Telephone: 763-572-7060</td>
</tr>
<tr>
<td>Engineering Functional Manager</td>
<td>Email: <a href="mailto:wil.brown@baesystems.com">wil.brown@baesystems.com</a></td>
</tr>
<tr>
<td>4800 East River Road</td>
<td>Program website: Not available</td>
</tr>
<tr>
<td>Minneapolis, MN 55421-1498</td>
<td></td>
</tr>
</tbody>
</table>

**Mission:** Maintain industry leadership in advanced technologies that focus on enhancing survivability, lethality, and mobility for today's warfighters.

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

---

**Program Name:** FIRST Robotics Competition

**Description:** International robotics development and competition for 9-12th graders.

**Goals:** Increase interest and education in engineering.

**Areas:** Science

Technology

Engineering (Robot design and fabrication, Project management)

**Primary Population Served:**

<table>
<thead>
<tr>
<th>Age: Grades 9-12</th>
<th>Age categories:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender: Both</td>
<td>Junior high</td>
</tr>
<tr>
<td>Race: All</td>
<td>High school</td>
</tr>
<tr>
<td>Socioeconomic status: All</td>
<td>Region categories:</td>
</tr>
<tr>
<td>Geography: Our site focuses on the northern metro area, although BAE Systems is the largest corporate sponsor of FIRST in the U.S.</td>
<td></td>
</tr>
</tbody>
</table>

**Outreach to Particular Group:** Yes

**Outreach Group(s):** Have identified specific high schools that they partner with.

**Eligibility Criteria:** Schools must be able to provide an adult representative to work with us to coordinate activities, provide transportation for the students, etc.

**Barriers to Participation:** The students must attend a partnering high school.

**Number of Participants in 2009:** Not available
### Organization: BAE Systems  
**Type:** Business/industry

### Contact Information:
- **Wil Brown,** Engineering Functional Manager  
  4800 East River Road  
  Minneapolis, MN 55421-1498  
  **Telephone:** 763-572-7060  
  **Email:** wil.brown@baesystems.com  
  **Program website:** Not available

### Mission:
Maintain industry leadership in advanced technologies that focus on enhancing survivability, lethality, and mobility for today's warfighters.

### Offers STEM Programs/Services for 4th-12th Grade Students:
Yes

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#### Program Name: Minorities & Women in Technology

**Description:** This is a BAE-initiated program that was launched to provide high school minority and female students an opportunity to explore the field of engineering and be mentored by our engineering employees.

**Goals:** There are 3 goals of this program: 1. To provide a pool of female and minority BAE-seasoned candidates who, upon their college graduation, will look to BAE for permanent employment. 2. To provide an opportunity for local high school female and minority students to explore the field of technology and engineering. 3. To offer the students a hands-on approach to learning various engineering principles in a professional work environment.

**Areas:** Technology (Information Technology), Engineering (Mechanical, Software, Electrical, Modeling & Simulation, Human Factors, Manufacturing, and Systems)

**Primary Population Served:**
- **Age:** Grades 11-12
- **Gender:** Both
- **Race:** All females and diverse males
- **Socioeconomic status:** Inner-city schools are asked to participate.
- **Geography:** Minneapolis

**Age categories:** High school  
**Region categories:** Minneapolis  

**Outreach to Particular Group:** Yes

**Outreach Group(s):** Patrick Henry High School and Columbia Heights High School

**Eligibility Criteria:** Currently have two partner schools: Patrick Henry and Columbia Heights High Schools. Students need to attend either of the partner schools.

**Barriers to Participation:** Must attend partner school, and have a minimum of a 3.0 GPA.

**Number of Participants in 2009:** 8
Organization: Base Camp, Northern Star Council, Boy Scouts of America  
Type: Nonprofit

Contact Information:
Jonathan Jones  
Base Camp Program Director  
Base Camp, Northern Star Council, Boy Scouts of America; 201 Bloomington Road  
Fort Snelling, MN 55111  
Telephone: 612-767-0051  
Email: jjones@nsbsa.org  
Program website:  
http://www.explo reb ecamp.org/

Mission: Base Camp is a resource for the entire community, serving four primary groups: Scouts- after school, evening, and weekend programs; Schools- educational programs and field trips; Community groups - non-profit partnerships and facility rental; and Corporate groups - retreats, conferences and team building. It is designed as a place “where expeditions begin” to introduce young people from all communities to the type of activities that are core elements of Scouting and our “learning by doing” approach to non-formal education. Young people of all ages and backgrounds can experience the adventures of Scouting right in the heart of the metro area.

Offers STEM Programs/Services for 4th-12th Grade Students: Yes

Program Name: NASA Space Shuttle Simulator

Description: Test your flight skills and teamwork in one of only eight NASA space shuttle flight simulators in the nation.

Goals: The space shuttle simulator is one of eight ¾ scale shuttle simulators in the country. The simulator program offers a unique team-building experience as participants sequence a shuttle launch or landing as members of mission control or the shuttle crew.

Areas: Science (Aerospace)

Primary Population Served:
Age: From 4th grade to Adults  
Gender: All  
Race: All  
Socioeconomic status: All  
Geography: Twin Cities and surrounding community areas

Age categories:  
Elementary  
Junior high  
High school

Region categories:  
St. Paul  
Minneapolis  
Metro Area

Outreach to Particular Group: Yes

Outreach Group(s): Community youth in general.

Eligibility Criteria: Not available

Barriers to Participation: Not available

Number of Participants in 2009: Not applicable – Opened October 2, 2010
**Organization:** Belwin Outdoor Science  
**Type:** Education institution

**Contact Information:**  
Joshua Leonard  
Education Director  
1553 Stagecoach Trail S.  
Afton, MN 55001  
Telephone: 651-436-5243  
Email: joshua.leonard@spps.org  
Program website: Not available

**Mission:** Provide a meaningful outdoor learning experience which promotes life-long awareness toward the care and respect of our world.

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

**Program Name:** Belwin Outdoor Science

**Description:** To teach science standards in an Environmental Education format to Saint Paul Public School students. Other districts are able to schedule on a first-come, first-serve basis. Most students are 3rd and 5th graders. Now open for secondary students. 60 students maximum.

**Goals:** To teach science standards utilizing an outdoor laboratory to SPPS 3rd, 5th, and secondary science students.

**Areas:** Science (Life science benchmarks for 3rd, 5th, and secondary--7th and biology or environmental science)

**Primary Population Served:**

<table>
<thead>
<tr>
<th>Age</th>
<th>Grades 3, 5, 7, high school biology and environmental science</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Both</td>
</tr>
<tr>
<td>Race</td>
<td>SOC 80%, ELL 39%</td>
</tr>
<tr>
<td>Socioeconomic status</td>
<td>Free/Reduced Lunch 73%</td>
</tr>
<tr>
<td>Geography</td>
<td>St. Paul</td>
</tr>
</tbody>
</table>

**Age categories:**

<table>
<thead>
<tr>
<th>Elementary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Junior high</td>
</tr>
<tr>
<td>High school</td>
</tr>
<tr>
<td>Region categories:</td>
</tr>
<tr>
<td>St. Paul</td>
</tr>
<tr>
<td>Metro Area</td>
</tr>
</tbody>
</table>

**Outreach to Particular Group:** Yes

**Outreach Group(s):** SPPS students.

**Eligibility Criteria:** Belwin Outdoor Science is a SPPS program for SPPS students. Other schools may pay to visit on available dates.

**Barriers to Participation:** SPPS schools only pay for their field trip school bus. 5th grade classes have their bus paid for by the 3M SSEI grant.

**Number of Participants in 2009:** 10,000
## BioBusiness Alliance of Minnesota

**Type:** Business/industry  
**Nonprofit**

### Contact Information:
- **Amy Johnson, MPA**  
  Sr. Program Manager  
  1550 Utica Avenue South, Suite 740  
  St. Louis Park, MN 55416  
  Telephone: 952-746-3826  
  Email: ajohnson@biobusinessalliance.org  
  Program website: Not available

### Mission:
The BioBusiness Alliance of Minnesota is an organization of people representing Minnesota companies, academia, and government, devoted to 1) building the bioscience industry, 2) retaining and creating jobs, and 3) positioning Minnesota as a global leader in biobusiness with the ultimate goal of improving economic, health, social, and environmental well-being.

**Offers STEM Programs/Services for 4th-12th Grade Students:** No

### Program Name: Small Science for Big Thinkers: A Discussion of Emerging Technologies Affecting Minnesota’s Future

**Description:** Will provide a high-level overview of the enabling knowledge clusters that are shaping our life science industries in Minnesota. Will explore how to take advantage of new technologies, new discoveries, and the synergies between them to drive the growth of Minnesota’s bioscience industries. The presentation gives practical examples of how these technologies are impacting our lives today and their role in shaping our future. Will also present key terminology of emerging technologies and what it means for our work and our state’s opportunities.

**Goals:** A broad-based and high-level program designed to inspire Minnesotans working in or near the life sciences to become engaged in the life science community and understand basic scientific terminology.

**Areas:**  
- Science  
- Technology

### Primary Population Served:
- **Age:** Adults  
- **Gender:** Both  
- **Race:** All  
- **Socioeconomic status:** All  
- **Geography:** Statewide  
- Region categories:  
  - St. Paul  
  - Minneapolis  
  - Metro Area  
  - Greater Minnesota

**Outreach to Particular Group:** No

**Outreach Group(s):** Not applicable

**Eligibility Criteria:** None.

**Barriers to Participation:** Not available

**Number of Participants in 2009:** N/A - Active in June 2010
Organization: Bloomington Public Schools  
Type: Education institution

Contact Information:
Debbie Belfry
Career Development Coordinator
9600 3rd Avenue South
Bloomington, MN 55420

Telephone: 952-806-8785
Email: dbelfry@bloomington.k12.mn.us
Program website: Not available

Mission: E-12 public education

Offers STEM Programs/Services for 4th-12th Grade Students: Yes

Program Name: FIRST Robotics Competition

Description: Competition offered at Jefferson and Kennedy High Schools.

Goals: Develop an interest in applied STEM activities.

Areas: Technology
      Engineering

Primary Population Served:
Age: High School
Gender: Both
Race: All
Socioeconomic status: All
Geography: National program

Age categories: High school
Region categories: Metro Area

Outreach to Particular Group: No

Outreach Group(s): Not applicable

Eligibility Criteria: Open to the public.

Barriers to Participation: Cost to get to the national competition (2009).

Number of Participants in 2009: 40
**Organization:** Bloomington Public Schools  
**Type:** Education institution

<table>
<thead>
<tr>
<th>Contact Information:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Debbie Belfry</td>
</tr>
<tr>
<td>Career Development Coordinator</td>
</tr>
<tr>
<td>9600 3rd Avenue South</td>
</tr>
<tr>
<td>Bloomington, MN 55420</td>
</tr>
<tr>
<td>Telephone: 952-806-8785</td>
</tr>
<tr>
<td>Email: <a href="mailto:dbelfry@bloomington.k12.mn.us">dbelfry@bloomington.k12.mn.us</a></td>
</tr>
<tr>
<td>Program website: Not available</td>
</tr>
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</table>

**Mission:** E-12 public education

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

<table>
<thead>
<tr>
<th>Program Name: Engineering is Elementary</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description:</strong> Museum of Science - Boston curriculum.</td>
</tr>
<tr>
<td><strong>Goals:</strong> Elementary STEM fair to showcase projects to parents and district staff.</td>
</tr>
</tbody>
</table>
| **Areas:**  
  Science (Embedded science in curriculum)  
  Engineering (Projects created)  
  Math (Embedded math in curriculum) |  
| **Primary Population Served:**  
  Age: Grades K-5  
  Gender: Both  
  Race: All  
  Socioeconomic status: All  
  Geography: Bloomington elementary students. |  
| **Age categories:**  
  Elementary |  
| **Region categories:**  
  Metro Area |  

**Outreach to Particular Group:** No

**Outreach Group(s):** Not applicable

**Eligibility Criteria:** Attendance at Bloomington elementary schools.

**Barriers to Participation:** None.

**Number of Participants in 2009:** 451
<table>
<thead>
<tr>
<th>Organization:</th>
<th>Bloomington Public Schools</th>
<th>Type:</th>
<th>Education institution</th>
</tr>
</thead>
</table>

**Contact Information:**
Debbie Belfry  
Career Development Coordinator  
9600 3rd Avenue South  
Bloomington, MN 55420  
Telephone: 952-806-8785  
Email: dbelfry@bloomington.k12.mn.us  

**Mission:** E-12 public education

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

<table>
<thead>
<tr>
<th>Program Name:</th>
<th>Project Lead The Way</th>
</tr>
</thead>
</table>

**Description:** National engineering curriculum.

**Goals:** Introduction to engineering and possible college credit.

**Areas:** Science  
Technology  
Engineering  
Math

**Primary Population Served:**
- **Age:** Grades 6-8 required; high school electives.  
- **Gender:** Both  
- **Race:** All  
- **Socioeconomic status:** All  
- **Geography:** Bloomington Public Schools

**Age categories:**  
Elementary  
Junior high  
High school

**Region categories:**  
Metro Area

**Outreach to Particular Group:** No

**Outreach Group(s):** Not applicable

**Eligibility Criteria:** Bloomington Public Schools students.

**Barriers to Participation:** None.

**Number of Participants in 2009:** 2,521
<table>
<thead>
<tr>
<th>Organization: Boston Scientific</th>
<th>Type: Business/industry</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Contact Information:</strong></td>
<td></td>
</tr>
<tr>
<td>Jerry Sosinske</td>
<td>Telephone: 763-494-2574</td>
</tr>
<tr>
<td>Member of STEM Council</td>
<td>Email: <a href="mailto:jerry@sosinske.com">jerry@sosinske.com</a></td>
</tr>
<tr>
<td></td>
<td>Program website: Not available</td>
</tr>
<tr>
<td><strong>Mission:</strong> Medical device company.</td>
<td></td>
</tr>
<tr>
<td><strong>Offers STEM Programs/Services for 4th-12th Grade Students:</strong> No</td>
<td></td>
</tr>
<tr>
<td><strong>Program description not applicable</strong></td>
<td></td>
</tr>
</tbody>
</table>
Organization:  Center for Compact and Efficient Fluid Power, University of Minnesota  
Type: Education institution

Contact Information:  
Alyssa Burger  
Education and Outreach Director  
Telephone: 612-624-4991  
Email: aburger@me.umn.edu  
Program website: [http://www.ccefp.org/education-outreach/pre-college-education/ret-program](http://www.ccefp.org/education-outreach/pre-college-education/ret-program)

Offers STEM Programs/Services for 4th-12th Grade Students: Yes

Program Name: Research Experience for Teachers--six weeks, June to August

Description: Each summer, the CCEFP research universities host six or more high school teachers for the summer. Teachers engage in CCEFP research projects and create curriculum to take back to their class. Can also contact Professor William Durfee at wkdurfee@umn.edu.

Goals: The goal of the Research Experiences for Teachers (RET) program is to expose teachers to cutting edge research and to encourage teachers to bring research inspired curriculum and inquiry approaches to their students.

Areas: Engineering

Primary Population Served:  
Age: Teachers, Grades 9-12  
Gender: Not available  
Race: Not available  
Socioeconomic status: Not available  
Geography: Not available  
Age categories: Teachers  
Region categories: St. Paul  
Minneapolis  
Metro Area  
Greater Minnesota

Outreach to Particular Group: High school teachers

Outreach Group(s): No

Eligibility Criteria: Yes, by application.

Barriers to Participation: Not applicable

Number of Participants in 2009: 6
**Organization:** Center for Compact and Efficient Fluid Power, University of Minnesota  
**Type:** Education institution

**Contact Information:**  
Not available

**Telephone:** Not available  
**Email:** Not available  
**Program website:** [http://www.ccefp.org/education-outreach/pre-college-education/hands-workshops](http://www.ccefp.org/education-outreach/pre-college-education/hands-workshops)

**Mission:** The Center’s Education and Outreach program fills a long-recognized need. Despite fluid power’s ubiquitous presence as an industry enabler, hydraulics and pneumatics instruction is typically scant. But the CCEFP is now transferring knowledge about fluid power and the work of the Center to diverse audiences—students of all ages, users of fluid power, and the general public. Some of these programs are focused on STEM education with examples drawn from fluid power when appropriate, while others are specific to fluid power and its application. All are designed as multipliers—leveraging the benefits of working with established partners and/or with the potential to be duplicated by others.

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

**Program Name:** FIRST Robotics Teams Curriculum development

**Description:** The goal is to create additional curricular material on pneumatics for use by high school FIRST Robotics teams. Two types of material are being developed: (1) web-based self learning material for students, and (2) workshop curriculum for delivery by mentors.

**Goals:** See program description.

**Areas:** Technology  
Engineering

**Primary Population Served:**  
Age: Teachers, Students Grades 9-12  
Gender: Not available  
Race: Not available  
Socioeconomic status: Not available  
Geography: Not available

**Age categories:**  
High school  
Teachers

**Region categories:**  
St. Paul  
Minneapolis  
Metro Area  
Greater Minnesota

**Outreach to Particular Group:** Yes

**Outreach Group(s):** FIRST Robotics teams.

**Eligibility Criteria:** Not applicable

**Barriers to Participation:** Not applicable

**Number of Participants in 2009:** Not available
Organization: Center for Compact and Efficient Fluid Power, University of Minnesota

Type: Education institution

Contact Information: Not available

Mission: The Center’s Education and Outreach program fills a long-recognized need. Despite fluid power’s ubiquitous presence as an industry enabler, hydraulics and pneumatics instruction is typically scant. But the CCEFP is now transferring knowledge about fluid power and the work of the Center to diverse audiences—students of all ages, users of fluid power, and the general public. Some of these programs are focused on STEM education with examples drawn from fluid power when appropriate, while others are specific to fluid power and its application. All are designed as multipliers—leveraging the benefits of working with established partners and/or with the potential to be duplicated by others.

Offers STEM Programs/Services for 4th-12th Grade Students: Yes

Program Name: Fluid Power television documentary

Description: CCEFP, in conjunction with the National Fluid Power Association and Twin Cities Public Television, has produced a two-part documentary on fluid power. The first 30-minute documentary focuses on an in-depth introduction to fluid power. This documentary is aimed at K-12 children, and a general audience with no knowledge of fluid power. The second documentary, which is also being sponsored in part by several international fluid power societies, emphasizes current research in the field, with the intention of highlighting careers in engineering. The documentary will soon be available on DVD.

Goals: Not available

Areas: Technology  Engineering

Primary Population Served:

- Age: All ages
- Gender: Not available
- Race: Not available
- Socioeconomic status: Not available
- Geography: Not available

- Age categories: Elementary  Junior high  High school
- Region categories: St. Paul  Minneapolis  Metro Area  Greater Minnesota

Outreach to Particular Group: Not applicable

Outreach Group(s): Not applicable

Eligibility Criteria: Not applicable

Barriers to Participation: Not applicable

Number of Participants in 2009: Not applicable
Organization: Center for Science, Technology & Public Policy - Humphrey Institute, University of Minnesota

Type: Education institution

Contact Information:
Steve Kelley, Director
Sophia Ginis, Outreach Manager (Office 130)
301 - 19th Avenue South
Minneapolis, MN 55455

Telephone: Steve Kelley: 612-626-6629
Sophia Ginis: 612-625-3032
Email: kelle644@umn.edu; gini0003@umn.edu

Program website: Not available

Mission: The Center for Science, Technology & Public Policy's mission is to improve people’s lives by advancing the application of science and technology to solve public problems. CSTPP explores the increasingly important role that science and technology plays in our society and examines its implications for public policy at the international, national, and state levels. CSTPP helps to facilitate communication and open collaboration between different agencies, individuals, and organizations focused on STEM initiatives. For example, we helped facilitate a conference on Robotics and STEM education. Furthermore, the Center has been part of projects aimed at addressing issues in STEM education. Steve Kelley was chair of a committee on improving STEM Education for the Minnesota P-16 Partnership, which was chaired by University of Minnesota President Robert Bruinicks. Additionally, CSTPP was part of the original group meeting to discuss the prospect of a STEM network in the state of Minnesota.

Offers STEM Programs/Services for 4th-12th Grade Students: No

Program description not applicable
<table>
<thead>
<tr>
<th>Organization: Center for Transportation Studies, University of Minnesota</th>
<th>Type: Education institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact Information:</td>
<td>Telephone: Not available</td>
</tr>
<tr>
<td>Shawn Haag</td>
<td>Email: <a href="mailto:haag0025@umn.edu">haag0025@umn.edu</a></td>
</tr>
<tr>
<td>Program website:</td>
<td></td>
</tr>
<tr>
<td><a href="http://www.its.umn.edu/Education/k12outreach/index.html">http://www.its.umn.edu/Education/k12outreach/index.html</a></td>
<td></td>
</tr>
</tbody>
</table>

**Mission:** CTS was created in 1987 to address the need for closer cooperation between University faculty and state and federal departments of transportation, and to strengthen the University's role in transportation research and education.

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

### Program Name: Presentations for High Schools

**Description:** Transportation professionals from private and public industries can visit area high schools to discuss the transportation industry, give lectures, and demonstrate research and technology.

**Goals:** CTS exhibits and participates in numerous classes and camps to introduce K–12 students to transportation and transportation-related fields of study.

**Areas:** Engineering

**Primary Population Served:**
- Age: Teachers and Students Grades 9-12
- Gender: Not available
- Race: Not available
- Socioeconomic status: Not available
- Geography: Not available

**Age categories:**
- Junior high
- High school

**Region categories:**
- St. Paul
- Minneapolis
- Metro Area

**Outreach to Particular Group:** No

**Outreach Group(s):** Not applicable

**Eligibility Criteria:** Not applicable

**Barriers to Participation:** Not applicable

**Number of Participants in 2009:** Not available
**Organization:** Center for Transportation Studies, University of Minnesota  
**Type:** Education institution

**Contact Information:**  
Shawn Haag  
Telephone: Not available  
Email: haag0025@umn.edu  

**Mission:** CTS was created in 1987 to address the need for closer cooperation between University faculty and state and federal departments of transportation, and to strengthen the University’s role in transportation research and education.

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

<table>
<thead>
<tr>
<th>Program Name: Summer Technology Camp</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description:</strong> The Center for Distributed Robotics, Center for Transportation Studies, and the Digital Technology Center at the University of Minnesota are sponsoring a free technology day camp for sixth, seventh, and eighth graders.</td>
</tr>
<tr>
<td><strong>Goals:</strong> CTS exhibits and participates in numerous classes and camps to introduce K–12 students to transportation and transportation-related fields of study.</td>
</tr>
<tr>
<td><strong>Areas:</strong> Engineering</td>
</tr>
</tbody>
</table>
| **Primary Population Served:**  
  Age: Grades 6-8  
  Gender: Not available  
  Race: Not available  
  Socioeconomic status: Not available  
  Geography: Not available  
  Age categories: Elementary  
  Junior high  
  Region categories: St. Paul  
  Minneapolis  
  Metro Area |
<p>| <strong>Outreach to Particular Group:</strong> No |
| <strong>Outreach Group(s):</strong> Not applicable |
| <strong>Eligibility Criteria:</strong> By application. |
| <strong>Barriers to Participation:</strong> Must apply and be selected, must provide own transportation, no fee. |
| <strong>Number of Participants in 2009:</strong> 30 |</p>
<table>
<thead>
<tr>
<th>Organization:</th>
<th>Center for Transportation Studies, University of Minnesota</th>
<th>Type:</th>
<th>Education institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact Information:</td>
<td></td>
<td>Telephone:</td>
<td>Not available</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Email:</td>
<td><a href="mailto:haag0025@umn.edu">haag0025@umn.edu</a></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Program website:</td>
<td><a href="http://www.its.umn.edu/Education/k12outreach/index.html">http://www.its.umn.edu/Education/k12outreach/index.html</a></td>
</tr>
<tr>
<td>Mission:</td>
<td>CTS was created in 1987 to address the need for closer cooperation between University faculty and state and federal departments of transportation, and to strengthen the University's role in transportation research and education.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Offers STEM Programs/Services for 4th-12th Grade Students:</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Program Name: Tours of Intelligent Transportation Systems (ITS) Facilities**

**Description:** The ITS Institute provides high school groups with tours and demos of the various transportation facilities and labs. Students have the opportunity to see and learn about the Minnesota Traffic Observatory, HumanFIRST Program and Intelligent Vehicles Laboratory.

**Goals:** CTS exhibits and participates in numerous classes and camps to introduce K-12 students to transportation and transportation-related fields of study.

**Areas:** Engineering

**Primary Population Served:**

- **Age:** Teachers, Students, General Public All ages
- **Gender:** Not available
- **Race:** Not available
- **Socioeconomic status:** Not available
- **Geography:** Not available

<table>
<thead>
<tr>
<th>Age categories:</th>
<th>High school</th>
</tr>
</thead>
<tbody>
<tr>
<td>Region categories:</td>
<td>St. Paul</td>
</tr>
<tr>
<td></td>
<td>Minneapolis</td>
</tr>
<tr>
<td></td>
<td>Metro Area</td>
</tr>
</tbody>
</table>

**Outreach to Particular Group:** No

**Outreach Group(s):** Not applicable

**Eligibility Criteria:** No

**Barriers to Participation:** Must provide own transportation or visit with partner school.

**Number of Participants in 2009:** Not available
<table>
<thead>
<tr>
<th>Organization:</th>
<th>Center for Transportation Studies, University of Minnesota</th>
<th>Type: Education institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact Information:</td>
<td>Shawn Haag</td>
<td>Telephone: Not available</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Email: <a href="mailto:haag0025@umn.edu">haag0025@umn.edu</a></td>
</tr>
</tbody>
</table>

**Mission:** CTS was created in 1987 to address the need for closer cooperation between University faculty and state and federal departments of transportation, and to strengthen the University's role in transportation research and education.

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

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### Program Name: Traffic Engineering Curriculum

**Description:** The ITS Institute has developed materials to teach high school students more about transportation-related issues and careers. Materials consist of five classroom lessons that may be adapted by teachers for their own classrooms and a traffic control game students can play online.

**Goals:** CTS exhibits and participates in numerous classes and camps to introduce K-12 students to transportation and transportation-related fields of study.

**Areas:** Engineering

**Primary Population Served:**
- Age: Teachers, Students Grades 9-12
- Gender: Not available
- Race: Not available
- Socioeconomic status: Not available
- Geography: Not available

**Age categories:**
- High school

**Region categories:**
- St. Paul
- Minneapolis
- Metro Area
- Greater Minnesota

**Outreach to Particular Group:** No

**Outreach Group(s):** Not applicable

**Eligibility Criteria:** Not applicable

**Barriers to Participation:** Not applicable

**Number of Participants in 2009:** Not available
## Organization: Center for Transportation Studies, University of Minnesota

### Type: Education institution

### Contact Information:
- Telephone: Not available
- Email: Not available
- Program website: [http://www.its.umn.edu/GridlockBuster/](http://www.its.umn.edu/GridlockBuster/)

### Mission:
CTS was created in 1987 to address the need for closer cooperation between University faculty and state and federal departments of transportation, and to strengthen the University's role in transportation research and education.

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

### Program Name: Gridlock Buster Game

#### Description:
The ITS (Intelligent Transportation Systems) Institute has created Web Research Modules for high school students to learn about transportation and technology issues in the Twin Cities area.

#### Goals:
CTS exhibits and participates in numerous classes and camps to introduce K-12 students to transportation and transportation-related fields of study.

#### Areas:
- Engineering

### Primary Population Served:
- **Age:** Teachers, Students All ages
- **Gender:** Not available
- **Race:** Not available
- **Socioeconomic status:** Not available
- **Geography:** Not available

<table>
<thead>
<tr>
<th>Age categories:</th>
<th>Region categories:</th>
</tr>
</thead>
<tbody>
<tr>
<td>High school</td>
<td>St. Paul</td>
</tr>
<tr>
<td>Minneapolis</td>
<td>Metro Area</td>
</tr>
</tbody>
</table>

### Outreach to Particular Group:
No

### Outreach Group(s):
Not applicable

### Eligibility Criteria:
Not applicable

### Barriers to Participation:
Not applicable

### Number of Participants in 2009:
Not available
**Organization:** Chemistry Department, University of Minnesota  
**Type:** Education institution

### Contact Information:
- David Blank  
  Professor  
  Telephone: Not available  
  Email: blank@umn.edu  
  Program website: Not available

### Offers STEM Programs/Services for 4th-12th Grade Students: Yes

#### Program Name: Energy and U Shows

**Description:** Everybody is talking about energy: What is it? Where do I get it? Can I convert it? Where can I put it? What happens when I let it out? Energy and U literally blows the lid off these questions, and highlights the many science and technology challenges that energy presents. Join the fun! Learn about energy with an information slide show set to music and demonstrations that include loud explosions, bright flashes, and flames! Meet two fantastic University professors who love what they do, and who teach that you, too, could do this every day!

**Goals:** Energy and U is a show focused on teaching the first law of thermodynamics through dramatic and interactive chemistry demonstrations.

**Areas:** Science

**Primary Population Served:**
- **Age:** Grades 4-12  
- **Gender:** Not available  
- **Race:** Not available  
- **Socioeconomic status:** Not available  
- **Geography:** Not available

**Age categories:**  
- Elementary  
- Junior high  
- High school

**Region categories:**  
- St. Paul  
- Minneapolis  
- Metro Area

**Outreach to Particular Group:** No

**Outreach Group(s):** Not applicable

**Eligibility Criteria:** Typically by invitation to partner schools, occasional public performances.

**Barriers to Participation:** Attend with partner school or provide own transportation.

**Number of Participants in 2009:** 3,800
Organization: Chemistry Department, University of Minnesota  
Type: Education institution

Contact Information:
R. Lee Penn  
Professor
Telephone: Not available  
Email: rleepenn@umn.edu  
Program website: http://www.chem.umn.edu/microscopycamp/

Offers STEM Programs/Services for 4th-12th Grade Students: Yes

Program Name: Microscopy Camp

Description: Middle and high school science teachers with an interest in learning and applying state-of-the-art microscopy (HRTEM, AFM & SEM) to observe nanoparticles and various chemical and biological particles. Teachers will learn about atomic structure imaging and curriculum implementation for their classrooms as well as explore and work in a research laboratory.

Goals: Not available

Areas: Science

Primary Population Served:
Age: Teachers, Grades 6-9  
Gender: Not available  
Race: Not available  
Socioeconomic status: Not available  
Geography: Not available

Age categories: Teachers  
Region categories: St. Paul  
Minneapolis  
Metro Area

Outreach to Particular Group: Yes

Outreach Group(s): Middle and high school teachers.

Eligibility Criteria: Registration required.

Barriers to Participation: Limited spaces.

Number of Participants in 2009: 14
Contact Information:
Letitia Yao
Telephone: Not available
Email: yaoxx006@umn.edu
Program website: http://www.chem.umn.edu/wise

Offers STEM Programs/Services for 4th-12th Grade Students: Yes

Program Name: Cool Chemistry Day 2010

Description: Cool Chemistry 2010 is a day for girls in grades 7-8 to explore the wonders of chemistry with women in the graduate program in the University of Minnesota's Department of Chemistry.

Goals: To introduce and engage girls in the field of chemistry.

Areas: Science

Primary Population Served:
- Age: Grades 7-8
- Gender: Girls
- Race: Not available
- Socioeconomic status: Not available
- Geography: Not available

Age categories: Junior high
Region categories: St. Paul, Minneapolis, Metro Area

Outreach to Particular Group: Yes

Outreach Group(s): Girls, 7th-8th grade.

Eligibility Criteria: Registration required.

Barriers to Participation: Must provide own transportation.

Number of Participants in 2009: 55
**Organization:** Chemistry Outreach, Department of Chemistry, University of Minnesota  
**Type:** Education institution

**Contact Information:**  
Ken Leopold  
Professor  
207 Pleasant St. SE  
Minneapolis, MN 55455  
Telephone: 612-625-6072  
Email: kleopold@umn.edu  
Program website: http://www.chem.umn.edu/outreach/

**Mission:** A. Show chemistry is fun and that anyone can do chemistry. B. Show that there are numerous career opportunities in chemistry-related fields. C. Improve contacts between University and K-12 science teachers. D. Inspire University chemistry students to become educators.

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

<table>
<thead>
<tr>
<th>Program Name: Chemistry Outreach</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description:</strong> See website: <a href="http://www.chem.umn.edu/outreach/">http://www.chem.umn.edu/outreach/</a>.</td>
</tr>
<tr>
<td><strong>Goals:</strong> A. Show chemistry is fun and that anyone can do chemistry. B. Show that there are numerous career opportunities in chemistry-related fields. C. Improve contacts between University and K-12 science teachers. D. Inspire University chemistry students to become educators. A standard program consists of a one-hour presentation with ample time for student questions. No special facilities are required; all supplies are provided by the University of Minnesota and there is no cost for the program. If needed, the length of the program can be adjusted for shorter or longer class periods.</td>
</tr>
<tr>
<td><strong>Areas:</strong> Science</td>
</tr>
<tr>
<td><strong>Primary Population Served:</strong></td>
</tr>
<tr>
<td>Age: Grades K-12</td>
</tr>
<tr>
<td>Gender: Both</td>
</tr>
<tr>
<td>Race: All</td>
</tr>
<tr>
<td>Socioeconomic status: All</td>
</tr>
<tr>
<td>Geography: Twin Cities and suburbs</td>
</tr>
<tr>
<td><strong>Outreach to Particular Group:</strong> Yes</td>
</tr>
<tr>
<td><strong>Outreach Group(s):</strong> Mostly schools, scout groups, etc., but we've been at science fairs, museums, etc.</td>
</tr>
<tr>
<td><strong>Eligibility Criteria:</strong> None.</td>
</tr>
<tr>
<td><strong>Barriers to Participation:</strong> None.</td>
</tr>
<tr>
<td><strong>Number of Participants in 2009:</strong> Approximately 6,000.</td>
</tr>
</tbody>
</table>
**Organization:** Civil Engineering Department, University of Minnesota  
**Type:** Education institution

**Contact Information:**  
Ann Johnson  
Telephone: Not available  
Email: johns421@umn.edu  
Program website: [http://www.ce.umn.edu/](http://www.ce.umn.edu/)

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

<table>
<thead>
<tr>
<th><strong>Program Name:</strong></th>
<th>Tours of CE and School Visits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description:</strong></td>
<td>Tours of CE department or visits to schools, upon request.</td>
</tr>
<tr>
<td><strong>Goals:</strong></td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Areas:</strong></td>
<td>Engineering (Civil engineering)</td>
</tr>
</tbody>
</table>

**Primary Population Served:**

- **Age:** Students, Teachers Grades K-12  
- **Gender:** Not available  
- **Race:** Not available  
- **Socioeconomic status:** Not available  
- **Geography:** Not available  

**Age categories:**  
- Elementary  
- Junior high  
- High school  

**Region categories:**  
- St. Paul  
- Minneapolis  
- Metro Area

**Outreach to Particular Group:** No  
**Outreach Group(s):** No  
**Eligibility Criteria:** None  
**Barriers to Participation:** Must provide own transportation.  
**Number of Participants in 2009:** 300
Organization: College of Science and Engineering Diversity and Outreach, University of Minnesota
Type: Education institution

Contact Information:
Katherine Cramer
Outreach Coordinator
Telephone: Not available
Email: crame003@umn.edu
Program website: http://www.cse.umn.edu

Mission: To increase content knowledge and interest in STEM disciplines among K-12 teachers and students, especially those underrepresented in STEM higher education.

Offers STEM Programs/Services for 4th-12th Grade Students: Yes

Program Name: Campus Visits

Description: The CSE Diversity and Outreach program arranges visits for schools, elementary through high school, to the College laboratories and research centers.

Goals: To showcase the University of Minnesota College of Science and Engineering departments, research laboratories, and centers.

Areas: Science
Engineering

Primary Population Served:
Age: Grades K-12
Gender: Not available
Race: Not available
Socioeconomic status: Not available
Geography: Not available

Age categories: Elementary
Junior high
High school
Region categories: St. Paul
Minneapolis
Metro Area

Outreach to Particular Group: Not applicable

Outreach Group(s): Not applicable

Eligibility Criteria: Not applicable

Barriers to Participation: None

Number of Participants in 2009: 500
**Organization:** College of Science and Engineering Student Services/Engineering Departments, University of Minnesota  
**Type:** Education institution

<table>
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<tr>
<th>Contact Information:</th>
<th>Telephone: Not available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not available</td>
<td>Email: Not available</td>
</tr>
<tr>
<td></td>
<td>Program website: <a href="http://www.mnpltw.org">http://www.mnpltw.org</a></td>
</tr>
</tbody>
</table>

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

**Program Name:** Project Lead the Way Teacher Summer Training Institute

**Description:** PLTW teachers can obtain 80 hours PD certified hours by attending the Summer Training Institute hosted by the College of Science and Engineering. Course offerings include Engineering Design, Digital Electronics, and Civil Engineering and Architecture.

**Goals:** Not available

**Areas:** Not available

**Primary Population Served:**
- Age: Teachers, Grades 7-12
- Gender: Not available
- Race: Not available
- Socioeconomic status: Not available
- Geography: Not available

**Age categories:**
- Teachers

**Region categories:**
- St. Paul
- Minneapolis
- Metro Area

**Outreach to Particular Group:** Not available

**Outreach Group(s):** Not available

**Eligibility Criteria:** Not available

**Barriers to Participation:** Not available

**Number of Participants in 2009:** 72
Organization:  College of Science and Engineering Student Services/Outreach, University of Minnesota

Type:  Education institution

Contact Information:
Katherine Cramer
Outreach Coordinator

Telephone: Not available
Email: crame003@umn.edu
Program website: http://www.cse.umn.edu/funfair

Mission:  Increase content knowledge and interest in STEM disciplines among K-12 teachers and students, especially those underrepresented in STEM higher education.

Offers STEM Programs/Services for 4th-12th Grade Students: Yes

Program Name: Math/Science Fun Fair

Description:  Fascinating activities, exhibits, and presentations showcasing mathematics and its science and engineering applications all add up to a day of learning. At the fair, families with students of all ages can explore mathematical puzzles and logic games while being introduced to how scientists solve problems.

Goals:  The fun fair provides a hands-on math and science experience and gives young people a chance to see the excitement that a career in science, engineering, or mathematics provides.

Areas:  Science
Technology
Engineering
Math

Primary Population Served:
Age:  PreK-Grade 12
Gender:  Not available
Race:  Not available
Socioeconomic status:  Not available
Geography:  Not available

Age categories:
Elementary
Junior high
High school
Region categories:
St. Paul
Minneapolis
Metro Area

Outreach to Particular Group: Open to the general public and free of charge.

Outreach Group(s): Not applicable

Eligibility Criteria:  Not applicable

Barriers to Participation: Must provide own transportation.

Number of Participants in 2009: 2,000
<table>
<thead>
<tr>
<th><strong>Organization:</strong></th>
<th>College of Science and Engineering Student Services/Outreach, University of Minnesota</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type:</strong></td>
<td>Education institution</td>
</tr>
</tbody>
</table>

**Contact Information:**
Katherine Cramer  
Outreach Coordinator  
Telephone: Not available  
Email: crame003@umn.edu  
Program website: [http://www.cse.umn.edu/eceps](http://www.cse.umn.edu/eceps)

**Mission:** Increase content knowledge and interest in STEM disciplines among K-12 teachers and students, especially those underrepresented in STEM higher education.

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

**Program Name:** Summer Enrichment Programs—Exploring Careers in Engineering and Physical Science summer camp

**Description:** You will engage in demonstrations, lectures, tours, and lab experiences that will make engineering, science, and math come alive as viable careers. Campus tours with College of Science and Engineering students, panel discussions, and informal lunches with career advisors and faculty, and presentations by CSE staff will help you to experience campus life, learn more about academic programs, and explore potential careers.

**Goals:** Not available

**Areas:** Science  
Technology  
Engineering  
Math

**Primary Population Served:**
- **Age:** Grades 10-12  
- **Gender:** Girls  
- **Race:** Not available  
- **Socioeconomic status:** Not available  
- **Geography:** Not available  
- **Age categories:** High school  
- **Region categories:** St. Paul  
  Minneapolis  
  Metro Area

**Outreach to Particular Group:** Open to eligible high school students.

**Outreach Group(s):** Not applicable

**Eligibility Criteria:** By application.

**Barriers to Participation:** Fee required, scholarships are available. Must provide own transportation, though assistance with cost is available.

**Number of Participants in 2009:** 140
<table>
<thead>
<tr>
<th><strong>Organization:</strong> Como Park Zoo and Conservatory</th>
<th><strong>Type:</strong> Education institution Other government</th>
</tr>
</thead>
</table>
| **Contact Information:**                        | **Telephone:** 651-487-8272  
Como Park Zoo and Conservatory  
1225 Estabrook Drive  
St. Paul, MN 55103 | **Email:** ComoEducation@ci.stpaul.mn.us  
**Program website:**  
http://www.comozooconservatory.org/education/ |

**Mission:** To inspire the public to value the presence of living things in our lives.

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

### Program Name: School and Group Programs

**Description:** These programs have various age-specific topics for early childhood to college-aged youth.

**Goals:** To help spark the curiosity in participants to want to learn more about plants, animals, and cultures.

**Areas:** Science (Biology, Zoology, Psychology, Life Sciences, Genetics)  
Other (Geography)

**Primary Population Served:**

- **Age:** Early childhood to college-aged youth.
- **Gender:** Both
- **Race:** Not available
- **Socioeconomic status:** Not available
- **Geography:** State of Minnesota

**Age categories:**

- Elementary
- Junior high
- High school

**Region categories:**

- St. Paul
- Minneapolis
- Metro Area
- Greater Minnesota

**Outreach to Particular Group:** Yes

**Outreach Group(s):** Within 60 miles of Como Park Zoo and Conservatory.

**Eligibility Criteria:** Anyone interested, pre-registration required.

**Barriers to Participation:** Fee required, transportation.

**Number of Participants in 2009:** 20,795
## Organization: Como Park Zoo and Conservatory

### Type:
- Education institution
- Other government

### Contact Information:
- Education Department
- Como Park Zoo and Conservatory
- 1225 Estabrook Drive
- St. Paul, MN 55103

#### Telephone: 651-487-8272
#### Email: ComoEducation@ci.stpaul.mn.us

### Mission:
To inspire the public to value the presence of living things in our lives.

### Offers STEM Programs/Services for 4th-12th Grade Students:
Yes

### Program Name: Camp Como

#### Description:
These half-day camps incorporate games, experiments, animal and plant visitors, and sometimes include behind-the-scene tours.

#### Goals:
To inspire participants to want to learn more about plants, animals, and cultures around the world.

#### Areas:
- Science (Biology, Zoology, Psychology, Life Sciences)
- Engineering (Exhibit design)
- Other (Geography)

#### Primary Population Served:

<table>
<thead>
<tr>
<th>Age: Ages 4-15</th>
<th>Age categories:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender: Both</td>
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</tr>
<tr>
<td>Race: Not available</td>
<td>Junior high</td>
</tr>
<tr>
<td>Socioeconomic status: Not available</td>
<td>St. Paul</td>
</tr>
<tr>
<td>Geography: Twin Cities and surrounding communities</td>
<td>Minneapolis</td>
</tr>
<tr>
<td></td>
<td>Metro Area</td>
</tr>
</tbody>
</table>

#### Outreach to Particular Group:
No

#### Outreach Group(s):
Not applicable

#### Eligibility Criteria:
Open to the public; pre-registration required.

#### Barriers to Participation:
Fee required, scholarships available; transportation.

#### Number of Participants in 2009:
800
<table>
<thead>
<tr>
<th>Organization: Como Park Zoo and Conservatory</th>
<th>Type: Education institution Other government</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact Information:</td>
<td>Telephone: 651-487-8252</td>
</tr>
<tr>
<td>Susie Van Blaircom</td>
<td>Email: <a href="mailto:ComoVolunteers@ci.stpaul.mn.us">ComoVolunteers@ci.stpaul.mn.us</a></td>
</tr>
<tr>
<td>Operations Manager</td>
<td>Program website:</td>
</tr>
<tr>
<td>Volunteer Services</td>
<td><a href="http://www.comozooconservatory.org/">http://www.comozooconservatory.org/</a> (search</td>
</tr>
<tr>
<td>Como Park Zoo and Conservatory, 1225 Estabrook</td>
<td>“volunteers”)</td>
</tr>
<tr>
<td>Drive St. Paul, MN 55103</td>
<td></td>
</tr>
</tbody>
</table>

**Mission:** To inspire the public to value the presence of living things in our lives.

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

### Program Name: Nature Walk

**Description:** This summer-long volunteer opportunity allows youth to handle animals, and to interact and interpret to the public while learning team building and job-related skills.

**Goals:** To teach participants life skills that will help them in their future careers.

**Areas:** Science (Biology, Zoology, Psychology, Life Sciences)
Other (Human Resources, Volunteerism)

**Primary Population Served:**
- **Age:** Ages 13-17
- **Gender:** Not available
- **Race:** Not available
- **Socioeconomic status:** Not available
- **Geography:** Twin Cities and surrounding communities

**Age categories:**
- Junior high
- High school

**Region categories:**
- St. Paul
- Minneapolis
- Metro Area

**Outreach to Particular Group:** No

**Outreach Group(s):** Not applicable

**Eligibility Criteria:** Just age requirements.

**Barriers to Participation:** Transportation.

**Number of Participants in 2009:** 40
Organization: Como Planetarium

Type: Education institution

Contact Information:
Dennis Brinkman
Teacher on Special Assignment
780 Wheelock Parkway West
St. Paul, MN 55117

Telephone: 651-293-5398
Email: como.planetarium@spps.org
Program website: http://planetarium.spps.org

Mission: Como Planetarium is a facility of Saint Paul Public Schools. It’s mission is to promote earth/space science education by presenting planetarium-based lessons and supporting a basic astronomy curriculum. The curriculum support is provided on-line as well as through material kits available for teacher check-out (limited to Saint Paul Public School teachers). Como Planetarium is under the umbrella of the Community Education Department and works in close collaboration with the Saint Paul Public Schools' curriculum and professional development team. It also presents after-school hours shows for the public and scout groups.

Offers STEM Programs/Services for 4th-12th Grade Students: Yes

Program Name: Earth/Space Science Lesson

Description: Earth/space science lesson for pre-kindergarten through 12-grade classrooms.

Goals: To help teachers meet the Minnesota Science Academic Standards.

Areas: Science (Earth/Space)

Primary Population Served:
Age: Grades PreK-12
Gender: Both
Race: All
Socioeconomic status: All
Geography: Twin Cities

Age categories: Elementary, Junior high, High school
Region categories: St. Paul, Minneapolis, Metro Area

Outreach to Particular Group: No

Outreach Group(s): Not applicable

Eligibility Criteria: Open to the public.

Barriers to Participation: Saint Paul Public Schools must pay a small transportation fee. Out-of-district classes have to pay a fee.

Number of Participants in 2009: 26,000
**Organization:** Como Planetarium  
**Type:** Education institution

**Contact Information:**  
Dennis Brinkman  
Teacher on Special Assignment  
780 Wheelock Parkway West  
St. Paul, MN 55117  
Telephone: 651-293-5398  
Email: como.planetarium@spps.org  
Program website: [http://planetarium.spps.org](http://planetarium.spps.org)

**Mission:** Como Planetarium is a facility of Saint Paul Public Schools. Its mission is to promote earth/space science education by presenting planetarium-based lessons and supporting a basic astronomy curriculum. The curriculum support is provided on-line as well as through material kits available for teacher check-out (limited to Saint Paul Public School teachers). Como Planetarium is under the umbrella of the Community Education Department and works in close collaboration with the Saint Paul Public Schools' curriculum and professional development team. It also presents after-school hours shows for the public and scout groups.

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

### Program Name: Public Shows

**Description:** Public shows are presented on selected Thursday evenings and on-demand. The topics range from those of interest to young families to the more sophisticated learners.

**Goals:** To promote an interest in earth/space science.

**Areas:** Science (Earth/Space)

**Primary Population Served:**

<table>
<thead>
<tr>
<th>Age</th>
<th>Age categories:</th>
</tr>
</thead>
<tbody>
<tr>
<td>All ages</td>
<td>Elementary</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Gender</th>
<th>Junior high</th>
</tr>
</thead>
<tbody>
<tr>
<td>Both</td>
<td>High school</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Race</th>
<th>Region categories:</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>St. Paul</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Socioeconomic status</th>
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</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>Metro Area</td>
</tr>
</tbody>
</table>

| Geography             | Twin Cities metro area           |

**Outreach to Particular Group:** No

**Outreach Group(s):** Not applicable

**Eligibility Criteria:** Open to the public.

**Barriers to Participation:** Must provide own transportation and pay a fee.

**Number of Participants in 2009:** 1,000
Organization: Como Planetarium

Contact Information:
Dennis Brinkman
Teacher on Special Assignment
780 Wheelock Parkway West
St. Paul, MN 55117

Telephone: 651-293-5398
Email: como.planetarium@spps.org
Program website: http://planetarium.spps.org

Mission: Como Planetarium is a facility of Saint Paul Public Schools. It’s mission is to promote earth/space science education by presenting planetarium-based lessons and supporting a basic astronomy curriculum. The curriculum support is provided on-line as well as through material kits available for teacher check-out (limited to Saint Paul Public School teachers). Como Planetarium is under the umbrella of the Community Education Department and works in close collaboration with the Saint Paul Public Schools’ curriculum and professional development team. It also presents after-school hours shows for the public and scout groups.

Offers STEM Programs/Services for 4th-12th Grade Students: Yes

Program Name: Scout Astronomy Shows

Description: Como Planetarium presents three different scout shows. Each show is designed for a specific level. One show is for grades kindergarten through second grade, one for grades three and four, and one for grades five and above. Each show presents astronomy topics that are of interest to their particular age level.

Goals: Scout shows are designed to meet as many of the requirements as possible for the scout astronomy badge, pin, or belt loops. The shows are designed to stimulate an interest in astronomy and science in general.

Areas: Science (Earth/Space)

Primary Population Served:
Age: Grades K-8
Gender: Both
Race: All
Socioeconomic status: All
Geography: Twin Cities metro area

Age categories: Elementary
Region categories: St. Paul

Outreach to Particular Group: Yes

Outreach Group(s): Scouts

Eligibility Criteria: Open to the public.

Barriers to Participation: Must provide their own transportation and pay a fee.

Number of Participants in 2009: 400
Mission: CREED, incorporated in 1997 as a 501(c)(3) non-profit, is Minnesota’s K-12 Energy Education Resource, specializing in teacher professional development. It sponsors courses in Energy Efficiency and Renewable Energy (EERE) in cooperation with several Minnesota Universities, who grant attendees university graduate credit hours. In the past six months, CREED has offered professional development workshops in energy education in cooperation with two universities, Hamline University in Saint Paul and Southwest Minnesota State University in Marshall. Both universities grant attendees six graduate credits for each two-week workshop, provided they complete their assignments. CREED courses offer workshops, site visits, and mentorship in the science and practice of renewable energy for high and middle school teachers. The courses are science-based, and help teachers communicate energy related subjects through direct experience. More than 20% of contact hours include site visits to Minnesota’s renewable energy community. Teachers network with Minnesota’s renewable energy professionals who serve them as future professional contacts. Teachers earning CREED/Hamline’s Energy Education Certificate spend a full four weeks in residence over two summers. Sponsors from the teacher’s own community pay for room and board expenses, graduate registration fees and travel expenses. Therefore, CREED volunteers must find sponsors for each teacher. Many energy industry sponsors and teachers cooperate after the workshops and teachers are required to write their sponsors letters of appreciation. CREED’s volunteer instructors are employed in energy-related or science fields. All instructors have a science or engineering background and teach or have taught at the K-12 or college level. CREED Volunteers have written more than fifty chapters of reference materials on energy topics over the past ten years, and are continuing to update the materials to cover new energy technologies. The list of CREED-written references includes Energy Basics (10 Chapters), Solar Direct (11 Chapters), Solar Meteorological (8 Chapters), Solar Photosynthetic (8 Chapters), New Energy Technologies (6 Chapters), Mathematics for Energy Problem Solving (5 Chapters), Energy Policy (4 Chapters), and Energy Entrepreneurship (5 Chapters). CREED’s Energy Education initiative is part of the STEM effort intended to reverse declining graduation rates in STEM disciplines. CREED focuses on helping science, technical education, and mathematics teachers improve their knowledge and ability to address energy topics and issues in their classrooms. Energy topics serve as excellent subjects incorporating an inter-disciplinary approach to STEM education and cover a wide range of the science, mathematics, and technical education standards.

Offers STEM Programs/Services for 4th-12th Grade Students: No

Program Name: CREED Project

Description: See organization mission.

Goals: See organization mission.

Areas: Science
Technology
Engineering
Math
Other (Energy Education)

Primary Population Served:
Age: Teacher Professional Development in Energy Education
Gender: Not available
Race: Not available
Socioeconomic status: Not available
Geography: Minnesota, statewide

Age categories:
Teachers

Region categories:
St. Paul
Minneapolis
Metro Area
Greater Minnesota
<table>
<thead>
<tr>
<th>Program Name: CREED Project (continued)</th>
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</thead>
<tbody>
<tr>
<td><strong>Outreach to Particular Group:</strong> Yes</td>
</tr>
<tr>
<td><strong>Outreach Group(s):</strong> K-12 teachers</td>
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<tr>
<td><strong>Eligibility Criteria:</strong> Admission to Hamline University Professional Development Courses, or equivalent at other universities.</td>
</tr>
<tr>
<td><strong>Barriers to Participation:</strong> N/A.</td>
</tr>
<tr>
<td><strong>Number of Participants in 2009:</strong> 48</td>
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**Program Name: CREED Project (continued)**

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</thead>
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<tr>
<td>Outreach Group(s): K-12 teachers</td>
</tr>
<tr>
<td>Eligibility Criteria: Admission to Hamline University Professional Development Courses, or equivalent at other universities.</td>
</tr>
<tr>
<td>Barriers to Participation: N/A.</td>
</tr>
<tr>
<td>Number of Participants in 2009: 48</td>
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</table>

<table>
<thead>
<tr>
<th>Organization:</th>
<th>CSE Characterization Facility, University of Minnesota</th>
<th>Type:</th>
<th>Education institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact Information:</td>
<td>Telephone: Not available</td>
<td>Email: <a href="mailto:haugs001@umn.edu">haugs001@umn.edu</a></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Program website: <a href="http://snf.stanford.edu/Education/Nanoleap.RA.html">http://snf.stanford.edu/Education/Nanoleap.RA.html</a></td>
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<tr>
<td>Offers STEM Programs/Services for 4th-12th Grade Students:</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Program Name: Remote Educational Outreach

**Description:** Nanoleap features live video feed from characterization lab to classroom.

**Goals:** Not available

**Areas:** Science
- Engineering

**Primary Population Served:**
- Age: Grades 7-12
- Gender: Not available
- Race: Not available
- Socioeconomic status: Not available
- Geography: Not available

**Age categories:**
- Junior high
- High school

**Region categories:**
- Not available

**Outreach to Particular Group:** Not applicable

**Outreach Group(s):** Not applicable

**Eligibility Criteria:** None

**Barriers to Participation:** Access to Internet.

**Number of Participants in 2009:** Not available
Organization: CSE Characterization Facility, University of Minnesota
Type: Education institution

<table>
<thead>
<tr>
<th>Contact Information:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. Greg Haugstad</td>
</tr>
</tbody>
</table>

Telephone: Not available
Email: haugs001@umn.edu
Program website: [http://www.charfac.umn.edu/](http://www.charfac.umn.edu/)

Offers STEM Programs/Services for 4th-12th Grade Students: Yes

<table>
<thead>
<tr>
<th>Program Name: Tours</th>
</tr>
</thead>
</table>

Description: Tours of facility.

Goals: Not available

Areas: Science
Engineering

Primary Population Served:
Age: Teachers, Students Grades 9-12
Gender: Not available
Race: Not available
Socioeconomic status: Not available
Geography: Not available

Age categories:
- Junior high
- High school

Region categories:
- St. Paul
- Minneapolis
- Metro Area

Outreach to Particular Group: Tours are by request.

Outreach Group(s): Not applicable

Eligibility Criteria: Not applicable

Barriers to Participation: Provide own transportation.

Number of Participants in 2009: 200
Organization: Digital Technology Center, University of Minnesota

Type: Education institution

Contact Information:
Not available
Telephone: Not available
Email: info@dtc.umn.edu
Program website: http://www.dtc.umn.edu

Mission: The Digital Technology Center (DTC) is a hub of innovation and excellence at the University of Minnesota in the digital technologies serving the industrial, educational, and public needs of the state of Minnesota and the nation. The DTC integrates research, education, and outreach in digital design, computer graphics and visualization, telecommunications, intelligent data storage and retrieval systems, multimedia, datamining, scientific computation, and other digital technologies.

Offers STEM Programs/Services for 4th-12th Grade Students: Yes

Program Name: Tours of DTC

Description: Tours of the Digital Technology Center including the Center for Distributed Robotics, the Digital Design Consortium, and the Laboratory for Computational Science and Engineering.

Goals: Learn about technology.

Areas: Technology

Primary Population Served:
- Age: Teachers, Students Grades K-12
- Gender: Not available
- Race: Not available
- Socioeconomic status: Not available
- Geography: Not available

Age categories: Elementary, Junior high, High school
Region categories: St. Paul, Minneapolis, Metro Area

Outreach to Particular Group: Not applicable

Outreach Group(s): Not applicable

Eligibility Criteria: Not applicable

Barriers to Participation: Must provide own transportation or visit with partner school.

Number of Participants in 2009: 300
**Organization:** FIRST Robotics Competition  
**Type:** Nonprofit

<table>
<thead>
<tr>
<th>Contact Information:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mark Lawrence</td>
<td>Telephone: 952-221-0390</td>
</tr>
<tr>
<td>Chairman, MN FIRST Planning Committee</td>
<td>Email: <a href="mailto:MarkL56821@aol.com">MarkL56821@aol.com</a></td>
</tr>
<tr>
<td>6508 Parnell Ave.</td>
<td>Program website: <a href="http://www.mnfirstregional.org">http://www.mnfirstregional.org</a></td>
</tr>
<tr>
<td>Edina, MN 55435</td>
<td></td>
</tr>
</tbody>
</table>

**Mission:** Our mission is to inspire young people to be science and technology leaders by engaging them in exciting mentor-based programs that build science, engineering, and technology skills; that inspire innovation; and that foster well-rounded life capabilities including self-confidence, communication, and leadership.

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

**Program Name:** FIRST Robotics Competition

**Description:** "The varsity sport for the mind," FRC combines the excitement of sport with the rigors of science and technology. Under strict rules, limited resources, and time limits, teams of 25 students or more are challenged to raise funds, design a team "brand," hone teamwork skills, and build and program robots to perform prescribed tasks against a field of competitors. It’s as close to “real-world engineering” as a student can get. Volunteer professional mentors lend their time and talents to guide each team.

**Goals:** 1) Learn from professional engineers, 2) Build and compete with a robot of their own design, 3) Learn and use sophisticated software and hardware, 4) Compete and cooperate in alliances and tournament, 4) Earn a place in the World Championship, and 5) Qualify for over $12 million in college scholarships.

**Areas:**  
- Science  
- Technology  
- Engineering  
- Math

**Primary Population Served:**  
- Age: Grades 9-12  
- Gender: Both  
- Race: All  
- Socioeconomic status: All  
- Geography: State of Minnesota

<table>
<thead>
<tr>
<th>Age categories:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Junior high</td>
</tr>
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<td>High school</td>
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<table>
<thead>
<tr>
<th>Region categories:</th>
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<tbody>
<tr>
<td>St. Paul</td>
</tr>
<tr>
<td>Minneapolis</td>
</tr>
<tr>
<td>Metro Area</td>
</tr>
<tr>
<td>Greater Minnesota</td>
</tr>
</tbody>
</table>

**Outreach to Particular Group:** No  
**Outreach Group(s):** Not applicable

**Eligibility Criteria:** Open to all students of high school age.

**Barriers to Participation:** Corporate funding takes care of most expenses. Some teams charge participation and travel fees. Meeting and building schedules are determined by individual teams. The competition season is January through mid-April.

**Number of Participants in 2009:** 1,500
Organization: FIRST Robotics Competition

Contact Information:
Mark Lawrence
Chairman, MN FIRST Planning Committee
6508 Parnell Ave.
Edina, MN 55435

Telephone: 952-221-0390
Email: MarkL56821@aol.com
Program website: http://www.mnfirstregional.org

Mission: Our mission is to inspire young people to be science and technology leaders by engaging them in exciting mentor-based programs that build science, engineering, and technology skills; that inspire innovation; and that foster well-rounded life capabilities including self-confidence, communication, and leadership.

Offers STEM Programs/Services for 4th-12th Grade Students: Yes

Program Name: FIRST Tech Challenge

Description: FTC is designed for those who want to compete head-to-head, using a sports model. Teams of up to 10 students are responsible for designing, building, and programming their robots to compete in an alliance format against other teams. The robot kit is reusable from year-to-year and is programmed using a variety of languages. Teams, including coaches, mentors and volunteers, are required to develop strategy and build robots based on sound engineering principles. Awards are given for the competition as well as for community outreach, design, and other real-world accomplishments.

Goals: 1) Design, build, and program robots, 2) Apply real-world math and science concepts, 3) Develop problem-solving, organizational, and team-building skills, 4) Compete and cooperate in alliances and tournaments, 5) Earn a place in the World Championship, 6) Qualify for over $12 million in college scholarships.

Areas: Science
Technology
Engineering
Math

Primary Population Served:
Age: Grades 9-12
Gender: Both
Race: All
Socioeconomic status: All
Geography: State of Minnesota

Outreach to Particular Group: No

Outreach Group(s): Not applicable

Eligibility Criteria: Open to all students of high school age.

Barriers to Participation: Teams typically charge participation and travel fees. Meeting and building schedules and locations are determined by individual teams. Typical teams have 10 students and a couple of adult mentors. In the first year of a team, the team is required to purchase a robot construction kit for approximately $1,000. Most teams find community and corporate sponsors to help cover costs.

Number of Participants in 2009: 100
## Contact Information:

Mark Lawrence  
Chairman, MN FIRST Planning Committee  
6508 Parnell Ave.  
Edina, MN 55435

Telephone: 952-221-0390  
Email: MarkL56821@aol.com  
Program website: [http://www.mnfirstregional.org](http://www.mnfirstregional.org)

## Mission:

Our mission is to inspire young people to be science and technology leaders by engaging them in exciting mentor-based programs that build science, engineering, and technology skills; that inspire innovation; and that foster well-rounded life capabilities including self-confidence, communication, and leadership.

### Offers STEM Programs/Services for 4th-12th Grade Students: Yes

## Program Name: FIRST Lego League

### Description:

Introduces younger students to real-world engineering challenges by building LEGO-based robots to complete tasks on a thematic playing surface. FLL teams, guided by their imaginations and adult coaches, discover exciting career possibilities and, through the process, learn to make positive contributions to society.

### Goals:

1) Design, build and program robots using LEGO MINDSTORMS technology, 2) Apply real-world math and science concepts, 3) Research challenges facing today’s scientists, 4) Learn critical thinking, team-building, and presentation skills, 5) Participate in tournaments and celebrations.

### Areas:

- Science
- Technology
- Engineering
- Math

### Primary Population Served:

- **Age:** Grades 4-8  
- **Gender:** Both  
- **Race:** All  
- **Socioeconomic status:** All  
- **Geography:** State of Minnesota

### Age categories:  
- Elementary  
- Junior high

### Region categories:  
- St. Paul  
- Minneapolis  
- Metro Area  
- Greater Minnesota

### Outreach to Particular Group: No

### Outreach Group(s): Not applicable

### Eligibility Criteria: Open to all students.

### Barriers to Participation: Teams typically charge small participation and local travel fees. Meeting and building schedules and locations are determined by individual teams. Typical teams have 4 to 8 students and a couple of adult mentors.

### Number of Participants in 2009: 2,100
Organization: Genesys Works - Twin Cities
Type: Nonprofit

Contact Information:
Jeff Tollefson
Executive Director
445 Minnesota Street, Suite 720
St. Paul, MN 55101

Telephone: 651-789-0088
Email: jtollefson@genesysworks.org
Program website: Not available

Mission: To enable economically disadvantaged high school students to enter and thrive in the economic mainstream by providing them the knowledge and work experience required to succeed as professionals.

Program Name: Genesys Works - Twin Cities

Description: Genesys Works is a nationally recognized non-profit organization that trains high school students to acquire the skills and mind-set they need to provide valuable IT services to the corporate world. After training, students are assigned to work in a meaningful internship in the IT department of a major corporation during their entire senior year where they discover their potential to succeed in a professional work environment.

Goals: To put students from challenged backgrounds on a path toward college and professional careers.

Areas: Technology (Information Technology/Computers)

Primary Population Served:
Age: Grade 12
Gender: Both
Race: All
Socioeconomic status: Low-income
Geography: Twin Cities

Age categories: High school
Region categories: St. Paul

Outreach to Particular Group: No

Outreach Group(s): Not applicable

Eligibility Criteria: Ideally must attend a public high school in Minneapolis or St. Paul along with select inner-ring suburbs. All of our students come from low-income environments.

Number of Participants in 2009: 125
<table>
<thead>
<tr>
<th><strong>Organization:</strong></th>
<th>Girl Scouts of Minnesota and Wisconsin River Valleys</th>
<th><strong>Type:</strong></th>
<th>Nonprofit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Contact Information:</strong></td>
<td></td>
<td><strong>Telephone:</strong></td>
<td>800-845-0787</td>
</tr>
<tr>
<td>Missi Arens</td>
<td>Email: <a href="mailto:missi.aren@girlscoutsrv.org">missi.aren@girlscoutsrv.org</a></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VP Central Region-Girl Program</td>
<td>Program website: Not available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1025 N. Highway 3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Northfield, MN 55024</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Mission:</strong></td>
<td>Build girls of courage, confidence, and character who make the world a better place.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Offers STEM Programs/Services for 4th-12th Grade Students:</strong></td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Program Name: Girl Scouts of Minnesota and Wisconsin River Valleys**

**Description:** The Girl Scout experience is girl-driven, which means it reflects the ever-changing needs and interests of participating girls in kindergarten through grade 12. Cookies and camp are just two of the hundreds of programs and activities that help girls develop important life skills and values such as leadership, confidence, and determination. Girls can choose from hundreds of council-sponsored program events in a variety of focus areas, including leadership, cultural literacy, financial literacy, career literacy, healthy living, outdoor awareness, and STEM (science, technology, engineering, and math).

**Goals:** The Girl Scout program is developed to meet the following 15 program outcomes: Discover - Girls develop a strong sense of self, Girls develop positive values, Girls gain practical life skills, Girls seek challenges in the world, Girls develop critical thinking; Connect - Girls develop healthy relationships, Girls promote cooperation and team building, Girls can resolve conflicts, Girls advance diversity in a multicultural world, Girls feel connected to their communities locally and globally; Take Action - Girls can identify community needs, Girls are resourceful problem solvers, Girls advocate for themselves and others locally and globally, Girls educate and inspire others to act, Girls feel empowered to make a difference in the world.

**Areas:** Science  
Technology  
Other (Leadership, Cultural literacy, Financial literacy, Career literacy, Healthy living, Outdoor awareness, and STEM)

**Primary Population Served:**

<table>
<thead>
<tr>
<th>Age</th>
<th>Grades K-12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Female</td>
</tr>
<tr>
<td>Race</td>
<td>All</td>
</tr>
<tr>
<td>Socioeconomic status</td>
<td>All</td>
</tr>
<tr>
<td>Geography</td>
<td>45 counties in central and southern Minnesota, 4 counties in western Wisconsin, and 1 county in Iowa</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Age categories</th>
<th>Elementary</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Junior high</td>
</tr>
<tr>
<td></td>
<td>High school</td>
</tr>
</tbody>
</table>

**Region categories:**

<table>
<thead>
<tr>
<th>Region categories</th>
<th>St. Paul</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Minneapolis</td>
</tr>
<tr>
<td></td>
<td>Metro Area</td>
</tr>
<tr>
<td></td>
<td>Greater Minnesota</td>
</tr>
</tbody>
</table>

**Outreach to Particular Group:** Yes

**Outreach Group(s):** Latina, Hmong, African American, and Somali

**Eligibility Criteria:** Open to any girl who wants to be a part of Girl Scouts.

**Barriers to Participation:** None, program provides financial assistance to ensure that no girl is turned away from the program.

**Number of Participants in 2009:** 44,000
<table>
<thead>
<tr>
<th>Organization: Greater Minnesota Development Services, LLC</th>
<th>Type: Business/industry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact Information:</td>
<td>Telephone: 218-205-9519</td>
</tr>
<tr>
<td>Lois E. Josefson</td>
<td>Email: <a href="mailto:lois@greatermndevelopment.com">lois@greatermndevelopment.com</a></td>
</tr>
<tr>
<td>Principal</td>
<td>Program website: Not available</td>
</tr>
<tr>
<td>400 Spring Street, #401</td>
<td></td>
</tr>
<tr>
<td>St. Paul, MN 55102</td>
<td></td>
</tr>
</tbody>
</table>

**Mission:** Fostering business and community development.

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

<table>
<thead>
<tr>
<th>Program Name: Greater Minnesota Development Services, LLC</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description:</strong> STEM initiative advancement and program development.</td>
</tr>
<tr>
<td><strong>Goals:</strong> Increased youth engagement, bridging to applied learning and application continuum.</td>
</tr>
</tbody>
</table>
| **Areas:** Science  
Technology  
Engineering  
Math |
| **Primary Population Served:**  
Age: Grades 1-12  
Gender: Both  
Race: All  
Socioeconomic status: All  
Geography: Greater Minnesota and metro area |
| **Region categories:**  
St. Paul  
Minneapolis  
Metro Area  
Greater Minnesota |

**Outreach to Particular Group:** Not available

**Outreach Group(s):** Not available

**Eligibility Criteria:** Not available

**Barriers to Participation:** Not available

**Number of Participants in 2009:** Not available
### Organization: H2O for Life

**Type:** Business/industry  
**Nonprofit**

### Contact Information:

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Phone</th>
<th>Email</th>
<th>Program website</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patty Hall</td>
<td>President</td>
<td>651-303-7763</td>
<td><a href="mailto:phall@h2oforlifeschools.org">phall@h2oforlifeschools.org</a></td>
<td><a href="http://www.h2oforlifeschools.org">http://www.h2oforlifeschools.org</a></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Address:**  
5527 Hugo Rd.  
White Bear Lake, MN 55110

### Mission:

Provide educational opportunities for schools to connect globally with schools in developing countries in need of water, sanitation, and hygiene education. We provide educational curriculum and hands-on lessons concentrating on science, math, technology, and engineering.

### Offers STEM Programs/Services for 4th-12th Grade Students:

Yes

### Program Name: H2O for Life

**Description:** Please visit program website at www.h2oforlifeschool.org.

**Goals:** Educate our students about the global water crisis while providing opportunities for students to develop and implement a plan to raise funds to bring water to their global partner. Provide meaningful and engaging curricular ideas for teachers and students to see the endless possibilities that can be used to promote change.

**Areas:**  
Science (Water monitoring, Sand filters, Aquifer systems, and more)  
Technology (Creation of videos, power-point presentations, brochures)  
Engineering (Create an idea for a water project, study actual engineering tasks. We have the connection with the renovation of the Panama Canal in real time.)  
Math (Study the economics of water)

### Primary Population Served:

| Age: All ages - Very connective to middle school and high school |
|-------------------|-------------------|
| Gender: Both      | All ages          |
| Race: All         | High school       |
| Socioeconomic status: All | Teachers |
| Geography: Nationwide | St. Paul |

### Age categories:

- Elementary  
- Junior high  
- High school

### Region categories:

- Minneapolis  
- Metro Area  
- Greater Minnesota

### Outreach to Particular Group: No

### Outreach Group(s): Not applicable

### Eligibility Criteria: Open to all.

### Barriers to Participation: None.

### Number of Participants in 2009: Not available
<table>
<thead>
<tr>
<th>Organization: Hamline University</th>
<th>Type: Education institution</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Contact Information:</strong></td>
<td></td>
</tr>
<tr>
<td>Lee Schmitt</td>
<td>Telephone: 651-523-2562</td>
</tr>
<tr>
<td>Faculty, Hamline School of Education</td>
<td>Email: <a href="mailto:lschmitt@hamline.edu">lschmitt@hamline.edu</a></td>
</tr>
<tr>
<td>1536 Hewitt Ave. MS-A1760</td>
<td>Program website: Not available</td>
</tr>
<tr>
<td>St. Paul, MN 55104</td>
<td></td>
</tr>
</tbody>
</table>

**Mission:** Preparing teachers for teaching in the 21st century.

**Offers STEM Programs/Services for 4th-12th Grade Students:** No

**Program description not applicable**
Organization: Hennepin County Library - Franklin Community Library

Type: Education institution
Other government

Contact Information:
Angela Fiero
Senior Librarian
1314 East Franklin Ave.
Minneapolis, MN 55404

Telephone: 952-847-2928
Email: adfiero@hclib.org
Program website: Not available

Mission: Hennepin County Library’s mission is to nourish minds, transform lives, and build community together. Hennepin County Library is an extroverted organization committed to customer-centered services, collections, electronic access and resources, and programs and classes. Employees work every day to put the customer first to achieve our mission, vision, and goals.

Offers STEM Programs/Services for 4th-12th Grade Students: Yes

Program Name: TVbyGIRLS

Description: Leadership program for teens using the tools of media to teach collaboration, critical thinking, cross cultural communication, and social change skills.

Goals: Teens learn how to 1) "Read" media (understand how images work to evoke emotions and give social messages), 2) "Write" media (understand how to use the basic visual vocabulary to explore their lives and create authentic messages and speak to the issues of their community), and 3) "Share" media (understand the impact media has on our society and how to use this form to communicate their thoughts and experiences).

Areas: Technology (Video filmmaking)
Other (Media)

Primary Population Served:
Age: Ages 12-19
Gender: Both
Race: All
Socioeconomic status: All
Geography: Minnesota

Age categories:
Junior high
High school

Region categories:
St. Paul
Minneapolis
Metro Area
Greater Minnesota

Outreach to Particular Group: Yes

Outreach Group(s): Girls ages 12-19

Eligibility Criteria: Open to all teens.

Barriers to Participation: Must come to the location (library) for length of workshop.

Number of Participants in 2009: 250
<table>
<thead>
<tr>
<th>Organization:</th>
<th>Hennepin County Library - Franklin Community Library</th>
<th>Type:</th>
<th>Education institution Other government</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact Information:</td>
<td>Telephone: 952-847-2928 Email: <a href="mailto:adfiero@hclib.org">adfiero@hclib.org</a> Program website: Not available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Angela Fiero</td>
<td>Senior Librarian</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1314 East Franklin Ave.</td>
<td>Minneapolis, MN 55404</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mission:</td>
<td>Hennepin County Library’s mission is to nourish minds, transform lives, and build community together. Hennepin County Library is an extroverted organization committed to customer-centered services, collections, electronic access and resources, and programs and classes. Employees work every day to put the customer first to achieve our mission, vision, and goals.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Offers STEM Programs/Services for 4th-12th Grade Students:</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Program Name:</td>
<td>Bubble Bubble Pop</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Description:</td>
<td>Investigate bubbles, admire their beauty, and play with them. Participants will make basic bubble tools, use them, and take them home. Weather permitting, program takes place outdoors.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Goals:</td>
<td>Critical thinking; understanding basic water/air science.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Areas:</td>
<td>Science Engineering</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary Population Served:</td>
<td>Age: Grades K-6 Gender: Not available Race: Not available Socioeconomic status: Not available Geography: Not available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outreach to Particular Group:</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outreach Group(s):</td>
<td>Families and youth</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eligibility Criteria:</td>
<td>Open to public.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Barriers to Participation:</td>
<td>None.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of Participants in 2009:</td>
<td>20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organization: Hennepin County Library - Franklin Community Library</td>
<td>Type: Education institution Other government</td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------------------------------------------------------------</td>
<td>------------------------------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Contact Information:</strong></td>
<td>Telephone: 952-847-2928</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Angela Fiero</td>
<td>Email: <a href="mailto:adfiero@hclib.org">adfiero@hclib.org</a></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Senior Librarian</td>
<td>Program website: Not available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1314 East Franklin Ave.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minneapolis, MN 55404</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Mission:</strong> Hennepin County Library’s mission is to nourish minds, transform lives, and build community together. Hennepin County Library is an extroverted organization committed to customer-centered services, collections, electronic access and resources, and programs and classes. Employees work every day to put the customer first to achieve our mission, vision, and goals.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Offers STEM Programs/Services for 4th-12th Grade Students:</strong> Yes</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Program Name:** Tronix Team Lunchbox Boombox Project

**Description:** Teens grades 6-12 learn basic circuitry as they modify a regular lunch box into a fully functional boombox with MP3 player.

**Goals:** Helping to bridge a science and technology achievement gap by helping instill a passion for engineering early on in the lives of under-served urban youth and encouraging them to pursue these fields after graduation.

**Areas:** Engineering

**Primary Population Served:**
- Age: Grades 6-12
- Gender: Both
- Race: Diverse
- Socioeconomic status: Low-income
- Geography: Phillips neighborhood, Minneapolis

**Age categories:**
- Elementary
- Junior high
- High school

**Region categories:**
- Minneapolis

**Outreach to Particular Group:** Yes

**Outreach Group(s):** Local teens

**Eligibility Criteria:** Open to public.

**Barriers to Participation:** Must get to library.

**Number of Participants in 2009:** 20
Organization: High Tech Kids

Type: Nonprofit

Contact Information:
Holly Mezera
Executive Director
111 Third Avenue South, Suite 145
Minneapolis, MN 55401

Mission: High Tech Kids (HTK) delivers fun, hands-on science, engineering, and technology programs and events that help Minnesota kids in their formative pre-teen years. HTK inspires kids to build confidence, create opportunities, and thrive in the 21st century. HTK delivers STEM team-based programs and competitions that provide challenging and exciting learning opportunities for young people. Programs also provide adults with opportunities to share their expertise in and enthusiasm for these fields with young people in their communities. HTK supports teams, coaches, and volunteers with training, outreach, and research workshop opportunities, in addition to the 12-week extracurricular FLL program and 12 competitions annually.

Offers STEM Programs/Services for 4th-12th Grade Students: Yes

Program Name: MN FIRST LEGO League, MN Jr FIRST LEGO League

Description: Kids engage in 12 weeks of team-based robot building and computer programming, and conduct research on a real-world theme. Creativity and innovation are celebrated at 11 regional tournaments and our state championship each year. The 2010 theme is biomedical engineering, and the 2011 theme is safe food safety.

Goals: High Tech Kids’ goals are to: 1) Deliver world-class science, engineering, and technology programs, training, and events; 2) Reach kids during critical and formative years to ensure their future opportunities to thrive in a technology-driven world; 3) Connect kids with experienced professionals from their community to foster our future innovators, leaders, collaborators, and problem solvers; 4) Create opportunities for kids to engage in global, national, and community events; 5) Give adults a structured way to help youth increase their proficiency and interest in science, engineering, and technology; and 6) Partner with other education-oriented organizations to foster an ecosystem of learning opportunities in science, technology, engineering, and mathematics [STEM] for Minnesota youth.

Areas: Science (Teams conduct research on a real-world scientific field of study. Teams are judged and mentored in their research process, presentation, and teamwork. The 2010 theme is biomedical engineering.)
Technology (Teams program autonomous robots using LEGO Mindstorms software to achieve specific missions in three 2.5-minute rounds of competition. Teams are judged in programming and mentored in training and competitions.)
Engineering (Teams design and build robots to deliver these missions, utilizing sound mechanical design. Teams are judged in robot building and mentored in training and competitions.)

Primary Population Served:

Age: Ages 6-14, Grades K-9
Gender: Both
Race: All
Socioeconomic status: All
Geography: State of Minnesota, however is part of an international FLL program now in 56 countries involving more than 150,000 youth annually.

Age categories: Elementary
Region categories:

Elementary
St. Paul
Metro Area
Junior high
Minneapolis
Greater Minnesota

Outreach to Particular Group: Yes

Outreach Group(s): Minneapolis Public Schools, Saint Paul Public Schools, Rochester community

Eligibility Criteria: None.

Barriers to Participation: Students in Minneapolis Public Schools and some Saint Paul Public Schools register through their public schools’ extracurricular fall/winter programs. At these sites schools pay the fees and provide transportation. Any and all students and parents can form teams within the state of Minnesota. The teams’ fees paid to LEGO and FIRST for materials must be covered by the school, parents (as a participation fee), or through grants.

Number of Participants in 2009: 3,000
**Organization:** High Tech Kids  
**Type:** Nonprofit

**Contact Information:**  
Holly Mezera  
Executive Director  
111 Third Avenue South, Suite 145  
Minneapolis, MN 55401  
Telephone: 612-781-2203  
Email: holly@hightechkids.org  
Program website: [http://www.hightechkids.org](http://www.hightechkids.org)

**Mission:** High Tech Kids (HTK) delivers fun, hands-on science, engineering, and technology programs and events that help Minnesota kids in their formative pre-teen years. HTK inspires kids to build confidence, create opportunities, and thrive in the 21st century. HTK delivers STEM team-based programs and competitions that provide challenging and exciting learning opportunities for young people. Programs also provide adults with opportunities to share their expertise in and enthusiasm for these fields with young people in their communities. HTK supports teams, coaches, and volunteers with training, outreach, and research workshop opportunities, in addition to the 12-week extracurricular FLL program and 12 competitions annually.

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

---

**Program Name:** MN Jr. FIRST LEGO League

**Description:** For youth ages 6 - 9, Jr. FLL introduces the elements of the FLL program - research, problem solving, and introductory engineering and computer programming - to younger students in a team-based, non-competitive structure. Most of these teams are formed with parental or teacher guidance. Teams build a LEGO model, create a research poster, and develop beginning programming skills.

**Goals:** This program emphasizes a real-world research theme; contributions of others; friendly sportsmanship; a fun, interactive learning environment; and community involvement.

**Areas:** Science (Teams conduct research on a real-world scientific field of study. Teams are reviewed and mentored in their research ideas and teamwork. The 2010 theme is biomedical engineering.)  
Technology (Teams program models using LEGO WeDo Software. Teams are reviewed in programming and mentored in training and their celebration events showcasing their work.)  
Engineering (Teams design and build models using LEGO pieces, sensors, and elements. Teams are reviewed and mentored in training and events showcasing their work.)

**Primary Population Served:**

- **Age:** Ages 6-9, Grades K-3  
- **Gender:** Both  
- **Race:** All  
- **Socioeconomic status:** All  
- **Geography:** State of Minnesota

**Age categories:**  
- Elementary  
**Region categories:**  
- St. Paul  
- Minneapolis  
- Metro Area  
- Greater Minnesota

**Outreach to Particular Group:** Yes

**Outreach Group(s):** Minneapolis Public Schools

**Eligibility Criteria:** None.

**Barriers to Participation:** Students in Minneapolis Public Schools register through their extracurricular fall/winter programs. At these sites schools pay the fees and provide transportation. Any and all students and parents can form teams within the state of Minnesota. The teams’ fees paid to LEGO and FIRST for materials must be covered by the school, parents (as a participation fee), or through grants.

**Number of Participants in 2009:** 250
Organization: Innovative Engineers, University of Minnesota  
Type: Education institution

Contact Information:  
Not available

Telephone: Not available  
Email: info@innovativeengineers.us  
Program website: http://www.innovativeengineers.us/index.php

Offers STEM Programs/Services for 4th-12th Grade Students: Yes

Program Name: Wind Turbine Project

Description: Students from this organization are available to demonstrate projects that they are working on.

Goals: Not available

Areas: Engineering

Primary Population Served:

<table>
<thead>
<tr>
<th>Age</th>
<th>Grades 9-12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Not available</td>
</tr>
<tr>
<td>Race</td>
<td>Not available</td>
</tr>
<tr>
<td>Socioeconomic status</td>
<td>Not available</td>
</tr>
<tr>
<td>Geography</td>
<td>Not available</td>
</tr>
</tbody>
</table>

Age categories:  
Junior high  
High school

Region categories:  
St. Paul  
Minneapolis  
Metro Area

Outreach to Particular Group: No

Outreach Group(s): No

Eligibility Criteria: None

Barriers to Participation: No

Number of Participants in 2009: 15
**Organization:** Institute for Mathematics and its Applications, University of Minnesota  
**Type:** Education institution

**Contact Information:**  
Georgia Kroll  
Telephone: Not available  
Email: kroll@ima.umn.edu  

**Mission:** The primary mission of the IMA is to increase the impact of mathematics by fostering research of a truly interdisciplinary nature, linking mathematics of the highest caliber and important scientific and technological problems from other disciplines and industry.

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

**Program Name:** Math Matters Public Lectures--4/yr

**Description:** IMA Public Lectures feature distinguished mathematicians and scientists who are also superb expositors able to illuminate the role mathematics is playing in understanding our world and shaping our lives. The lectures are aimed at a broad audience.

**Goals:** To illuminate the role mathematics is playing in understanding our world and shaping our lives.

**Areas:** Math

**Primary Population Served:**  
Age: Grades 7-12  
Gender: Not available  
Race: Not available  
Socioeconomic status: Not available  
Geography: Not available  
Age categories: Junior high  
Region categories: St. Paul  
High school  
Minneapolis  
Metro Area

**Outreach to Particular Group:** Not applicable

**Outreach Group(s):** Not applicable

**Eligibility Criteria:** Not available

**Barriers to Participation:** Must provide own transportation.

**Number of Participants in 2009:** 1,500
<table>
<thead>
<tr>
<th><strong>Organization:</strong> James Ford Bell Museum of Natural History</th>
<th><strong>Type:</strong> Education institution Museum</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Contact Information:</strong></td>
<td>Telephone: 612-626-3858</td>
</tr>
<tr>
<td>Shoghig Berberian</td>
<td>Email: <a href="mailto:berb0003@umn.edu">berb0003@umn.edu</a></td>
</tr>
<tr>
<td>K - 12 Education Coordinator</td>
<td>Program website: <a href="http://www.bellmuseum.org">http://www.bellmuseum.org</a></td>
</tr>
<tr>
<td>10 Church St. S.E.</td>
<td></td>
</tr>
<tr>
<td>Minneapolis, MN 55455</td>
<td></td>
</tr>
</tbody>
</table>

**Mission:** To advance the quest to discover, document, and understand life in its many forms and to inspire curiosity, delight, and informed stewardship of the natural world.

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

**Program Name:** Off-Site Classroom Programs and Residency Programs

**Description:** Off-Site Classroom Programs provide an in-depth study of specific natural history topics such as invertebrates, insects, decomposers, and adaptations that can be customized to meet the curriculum needs of any teacher. Experienced museum instructors engage students in interactive learning and hands-on activities aligned with state and national science standards through the use of scientific equipment, artifacts, and authentic objects. The Off-Site Classroom Programs are either one to two hours in duration with over ten topics available for the school classroom. The Residency Programs provide multiple visit options and more in-depth learning opportunities for schools. Classroom students work closely with museum professionals and University of Minnesota scientists to examine animal behaviors and environments, museum collections, and displays. Students will have a better understanding of how scientists conduct research and be better connected to the natural environment. There are three topics available for up to four weeks.

**Goals:** Provide schools and community organizations an opportunity to take part in an interactive museum learning experience within their setting.

**Areas:** Science (Life Science, Earth and Space Science, and The Nature of Science and Engineering)  
Math (Data Analysis)  
Other (Art)

**Primary Population Served:**

<table>
<thead>
<tr>
<th>Age: Grades K-6</th>
<th>Age categories: Elementary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender: Both</td>
<td>Region categories:</td>
</tr>
<tr>
<td>Race: All</td>
<td>St. Paul</td>
</tr>
<tr>
<td>Socioeconomic status: All</td>
<td>Minneapolis</td>
</tr>
<tr>
<td>Geography: Metro area, Greater Minnesota, and Western Wisconsin</td>
<td>Metro Area</td>
</tr>
<tr>
<td></td>
<td>Greater Minnesota</td>
</tr>
</tbody>
</table>

**Outreach to Particular Group:** No

**Outreach Group(s):** Not applicable

**Eligibility Criteria:** Open and available to any school, group, or community organization.

**Barriers to Participation:** None

**Number of Participants in 2009:** 2,182
**Organization:** James Ford Bell Museum of Natural History  
**Type:** Education institution Museum

**Contact Information:**  
Shoghig Berberian  
K - 12 Education Coordinator  
10 Church St. S.E.  
Minneapolis, MN 55455  
Telephone: 612-626-3858  
Email: berb0003@umn.edu  
Program website: [http://www.bellmuseum.org](http://www.bellmuseum.org)

**Mission:** To advance the quest to discover, document, and understand life in its many forms and to inspire curiosity, delight, and informed stewardship of the natural world.

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

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**Program Name: Science Labs**

**Description:** Science Labs occur at the museum and provide an in-depth exploration and discovery into various science and natural history topics such as invertebrates, insects, decomposers, and animal adaptations. The Science Lab program curriculum emphasizes inquiry skills, meets diverse learning needs and grade levels, and aligns with state and national science standards. The Science Labs are one to two hours in duration with over ten topics available for the school classroom.

**Goals:** Provide a hands-on learning experience showcasing museum collections that foster an understanding and affinity for the natural world.

**Areas:** Science (Life Science, Earth and Space Science, and The Nature of Science and Engineering)  
Math (Data Analysis)  
Other (Art)

**Primary Population Served:**  
Age: Grades K-8  
Gender: Both  
Race: All  
Socioeconomic status: All  
Geography: Metro area, Greater Minnesota, and Western Wisconsin

| Age categories: | Elementary  
| Junior high |
| Region categories: | St. Paul  
| Minneapolis  
| Metro Area  
| Greater Minnesota |

**Outreach to Particular Group:** No

**Outreach Group(s):** Not applicable

**Eligibility Criteria:** Open and available to any school, group, or community organization.

**Barriers to Participation:** None

**Number of Participants in 2009:** 1,660
**Organization:** James Ford Bell Museum of Natural History  
**Type:** Education institution  
**Museum**

**Contact Information:**
Shoghig Berberian  
K - 12 Education Coordinator  
10 Church St. S.E.  
Minneapolis, MN 55455  
Telephone: 612-626-3858  
Email: berb0003@umn.edu  
Program website: [http://www.bellmuseum.org](http://www.bellmuseum.org)

**Mission:** To advance the quest to discover, document, and understand life in its many forms and to inspire curiosity, delight, and informed stewardship of the natural world.

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

### Program Name: Museum Tours

**Description:** Museum Tours allow students and adults to explore the Museum’s habitat diorama halls, the Touch and See Room, and an optional visit to the Museum’s special exhibits. Museum Tours are one to two hours in duration and led by experienced natural history interpreters covering such topics as animal habitats, predator-prey dynamics, food webs, animal behaviors, and environmental climate. Museum Tours are also available unfacilitated for an hour in duration.

**Goals:** Engage students and adults in participatory exploration of specific habitats and species within the major biomes of Minnesota.

**Areas:** Science (Life Science, Earth and Space Science, and The Nature of Science and Engineering)  
Math (Data Analysis)  
Other (Art)

**Primary Population Served:**
- Age: Grades K-8  
- Gender: Both  
- Race: All  
- Socioeconomic status: All  
- Geography: Metro area, Greater Minnesota, and Western Wisconsin

**Age categories:**  
- Elementary  
- Junior high  
- High school

**Region categories:**  
- St. Paul  
- Minneapolis  
- Metro Area  
- Greater Minnesota

**Outreach to Particular Group:** No

**Outreach Group(s):** Not applicable

**Eligibility Criteria:** Open and available to any school, group, or community organization.

**Barriers to Participation:** None

**Number of Participants in 2009:** 7,741
Organization: Learning Technologies Media Lab - University of Minnesota

Type: Education institution

Contact Information:
Joel Donna
Lecturer
159 Pillsbury Dr. SE
Minneapolis, MN 55455

Telephone: 612-770-6907
Email: joeldonna@umn.edu
Program website: Not available

Mission: The Learning Technologies Media Lab is a new, innovative research and design center located in the College of Education and Human Development’s (CEHD) Centers for Interdisciplinary Research at the University of Minnesota (http://www.cehd.umn.edu/research/centers/default.html). The lab’s mission is “to inspire and create opportunities for global collaboration in addressing humanity’s most pressing educational, social, and environmental issues by designing and evaluating innovative technology-mediated solutions for learners, educators, researchers, and organizations.” (At the time this information was compiled, the lab was scheduled to officially open in January 2010.) This lab is affiliated with the Learning Technologies academic program area in the Department of Curriculum and Instruction with CEHD at UMN (http://www.cehd.umn.edu/ci/Programs/Learning/). LT faculty, staff, and students will initially comprise the people who work within the center on various research and design projects, initiatives, and grants.

Offers STEM Programs/Services for 4th-12th Grade Students: No

Program description not applicable
<table>
<thead>
<tr>
<th>Organization: Leonardo's Basement</th>
<th>Type: Education institution Nonprofit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact Information:</td>
<td></td>
</tr>
<tr>
<td>Steve Jevning</td>
<td>Telephone: 612-824-4394</td>
</tr>
<tr>
<td>Executive Director</td>
<td>Email: <a href="mailto:stevej@leonardosbasement.org">stevej@leonardosbasement.org</a></td>
</tr>
<tr>
<td>4301 Nicollet Ave.</td>
<td>Program website: <a href="http://www.leonardosbasement.org">http://www.leonardosbasement.org</a></td>
</tr>
<tr>
<td>Minneapolis, MN 55409</td>
<td></td>
</tr>
</tbody>
</table>

**Mission:** Since 1998, the mission of Leonardo's Basement has been to provide innovative learning environments for children, teens, and adults to learn about themselves and their world by designing and building creative projects.

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

### Program Name: Leonardo’s Basement

**Description:** Leonardo’s Basement encourages girls and boys ages 4-16 to develop their creative and technical skills through design-and-build projects that blend engineering, art, and technology. The organization’s novel “workshop as a classroom” approach invigorates young people to solve challenging problems through tactile design, tinkering, building, and testing.

**Goals:** Support young people to: 1) Maintain curiosity, 2) Learn and apply creative and critical thinking skills, 3) Take risks, 4) Solve problems, and 5) Become confident lifelong learners.

**Areas:** Science (Mostly physical sciences with some chemistry)  
Technology (Information technology and technology using the original definition)  
Engineering (Primary focus of organization with emphasis upon design and building)  
Math (In support of engineering and technology)  
Other (Art, because of the design elements and because it offers easy access for many children to the world of innovation and building)

**Primary Population Served:**  
Age: Ages 4-16  
Gender: Both  
Race: All  
Socioeconomic status: 25% from economically disadvantaged families  
Geography: Twin Cities  
Age categories:  
Elementary  
Junior high  
High school  
Region categories:  
St. Paul  
Minneapolis  
Metro Area

**Outreach to Particular Group:** Yes

**Outreach Group(s):** Children from economically disadvantaged families and girls.

**Eligibility Criteria:** Open to all.

**Barriers to Participation:** Some transportation barriers.

**Number of Participants in 2009:** 1,800
Organization: LifeScience Alley
Type: Nonprofit

Contact Information:
Dana Boyle
Vice President of Business Development
1550 Utica Avenue South, Suite 725
St. Louis Park, MN 55416

Telephone: 952-746-3820
Email: dboyle@lifesciencealley.org
Program website: Not available

Mission: To enable business success in the life sciences through education, relationships, and advocacy.

Offers STEM Programs/Services for 4th-12th Grade Students: Yes

Program Name: BioGENEius Midwest Region Competition - Administered by Alley Institute

Description: High School students from throughout the Midwest compete by presenting biotechnology projects which are judged by academic, research, and industry specialists. The winner goes on to compete at the national level, and awards are presented at the annual convention of the Biotechnology Industry Organization (BIO).

Goals: Highlight exceptional biotechnology research projects and encourage more student engagement in the biotechnology field.

Areas:
Science (Biotechnology applied to human health, animal health, renewal materials, renewable energy, functional foods/nutraceuticals, and agriculture)
Technology (Biotechnology applied to human health, animal health, renewal materials, renewable energy, functional foods/nutraceuticals, and agriculture)

Primary Population Served:
Age: High school students
Gender: Both
Race: All
Socioeconomic status: All
Geography: Midwest

Age categories: High school
Region categories:
- St. Paul
- Minneapolis
- Metro Area
- Greater Minnesota

Outreach to Particular Group: No

Outreach Group(s): Not applicable

Eligibility Criteria: Open to all high school age students.

Barriers to Participation: Support to travel to Twin Cities may be needed.

Number of Participants in 2009: 8
<table>
<thead>
<tr>
<th>Organization:</th>
<th>Mad Science and Schoolhouse Chess of Minnesota</th>
<th>Type:</th>
<th>Business/industry</th>
</tr>
</thead>
</table>

**Contact Information:**
Colin Kilbane  
Director of Operations  
519 Payne Ave.  
St. Paul, MN 55130  
Telephone: 651-793-5721  
Email: mail@madsciencemn.org  
Program website: [http://www.madscience.org/mn](http://www.madscience.org/mn)

**Mission:** To get kids excited about science and to have fun while learning the ancient game of chess.

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

**Program Name: Special Events**

**Description:** A special event is an interactive science show. The event consists of about a dozen demonstrations, most of which involve audience participation and/or volunteers. We offer four different science and one chess special event. Though the shows are aimed at elementary age kids, we can customize the content for preschool, middle school, and families. A special event is best suited for groups of 40 or more, or if you do not know how many people will be attending.

**Goals:** The general program goal or educational objective of a science special event is to get kids excited about science. The interactive nature of the program shows children that science is something that they can do. The specific educational objectives of a special event do vary from program to program. Students will learn about the pieces and how they move in our chess special event. Contact us for details.

**Areas:** Science  
Other (Chess)

**Primary Population Served:**

<table>
<thead>
<tr>
<th>Age: Ages 5-12</th>
<th>Gender: Both</th>
<th>Race: All</th>
<th>Socioeconomic status: All</th>
<th>Geography: Mainly the metro area and suburbs, but we can serve the whole state.</th>
</tr>
</thead>
</table>

**Age categories:**

<table>
<thead>
<tr>
<th>Elementary</th>
<th>Region categories:</th>
<th>Age categories:</th>
</tr>
</thead>
<tbody>
<tr>
<td>St. Paul</td>
<td>Minneapolis</td>
<td>St. Paul</td>
</tr>
<tr>
<td>Metro Area</td>
<td>Greater Minnesota</td>
<td>Greater Minnesota</td>
</tr>
</tbody>
</table>

**Outreach to Particular Group:** No

**Outreach Group(s):** Not applicable

**Eligibility Criteria:** We charge the organization that books us a fee for the event and they determine the eligibility requirements to attend.

**Barriers to Participation:** Any prerequisites are determined by the organization that pays for the program.

**Number of Participants in 2009:** 8,000
<table>
<thead>
<tr>
<th><strong>Organization:</strong> Mad Science and Schoolhouse Chess of Minnesota</th>
<th><strong>Type:</strong> Business/industry</th>
</tr>
</thead>
</table>

**Contact Information:**
Colin Kilbane  
Director of Operations  
519 Payne Ave.  
St. Paul, MN 55130  
Telephone: 651-793-5721  
Email: mail@madsciencemn.org  
Program website: [http://www.madscience.org/mn](http://www.madscience.org/mn)  

**Mission:** To get kids excited about science and to have fun while learning the ancient game of chess.

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

### Program Name: After School Programs & Workshops

**Description:** A workshop is a one-hour class for up to 25 elementary-age kids. We have in excess of 90 different science-themed workshops for this age group. We have 24 chess-themed workshops. The curricula in these classes are based primarily on active learning and often use inquiry and discovery-based methods. Almost every science workshop features a take-home which is something the students receive or often build themselves that they can take home to continue learning. An after school program is a series of workshops offered before or after school, usually once a week for four to eight weeks.

**Goals:** The general educational objective is to get kids excited about science or chess. In the science classes the children will learn that science is not confined to the laboratory but found everywhere in the world around them. Specific educational objectives vary from workshop to workshop.

**Areas:** Science  
Other (Chess)

**Primary Population Served:**

- **Age:** Ages 5-12  
- **Gender:** Both  
- **Race:** All  
- **Socioeconomic status:** All  
- **Geography:** Mainly the metro area and suburbs, but we can serve the whole state.

<table>
<thead>
<tr>
<th>Age categories:</th>
<th>Region categories:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary</td>
<td>St. Paul</td>
</tr>
<tr>
<td>Minneapolis</td>
<td>Metro Area</td>
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<tr>
<td>Greater Minnesota</td>
<td></td>
</tr>
</tbody>
</table>

**Outreach to Particular Group:** No

**Outreach Group(s):** Not applicable

**Eligibility Criteria:** We charge the organization that books us a fee for the event and they determine the eligibility requirements to attend.

**Barriers to Participation:** Any prerequisites are determined by the organization that pays for the program.

**Number of Participants in 2009:** 7,000
<table>
<thead>
<tr>
<th>Organization: Mad Science and Schoolhouse Chess of Minnesota</th>
<th>Type: Business/industry</th>
</tr>
</thead>
</table>

**Contact Information:**
Colin Kilbane  
Director of Operations  
519 Payne Ave.  
St. Paul, MN 55130  

Telephone: 651-793-5721  
Email: mail@madsciencemn.org  
Program website: [http://www.madscience.org/mn](http://www.madscience.org/mn)

**Mission:** To get kids excited about science and to have fun while learning the ancient game of chess.

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

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**Program Name:** Summer Camps

**Description:** We offer 16 different half-day science-themed summer camps including rockets, flight, spy, forensics, robots, chemistry, space, and much more. We also offer a half-day chess camp. Each camp is designed to run for up to five days, three hours a day. The curricula in these camps are based primarily on active learning and often use inquiry and discovery-based methods.

**Goals:** The general educational objective is to get kids excited about science or chess. In the science camps the children will learn that science is not confined to the laboratory but found everywhere in the world around them. Specific educational objectives vary from camp day to camp day.

**Areas:**  
Science  
Engineering (Robotics)  
Other (Chess)

**Primary Population Served:**
- Age: Ages 5-12  
- Gender: Both  
- Race: All  
- Socioeconomic status: All  
- Geography: Mainly the metro area and suburbs, but we can serve the whole state.

**Age categories:**  
Elementary  
Region categories:  
St. Paul  
Minneapolis  
Metro Area  
Greater Minnesota

**Outreach to Particular Group:** No

**Outreach Group(s):** Not applicable

**Eligibility Criteria:** We charge the organization that books us a fee for the event and they determine the eligibility requirements to attend.

**Barriers to Participation:** Any prerequisites are determined by the organization that pays for the program.

**Number of Participants in 2009:** 1,200
Organization: MAST Lab, University of Minnesota  
Type: Education institution

Contact Information:  
Not available

Telephone: Not available  
Email: Not available  
Program website: http://nees.umn.edu/

Offers STEM Programs/Services for 4th-12th Grade Students: Yes

Program Name: Multiaxial Subassemblage Testing Lab Tours

Description: The MAST Laboratory is open for use as a national laboratory for researchers and for contract testing by private companies across the country who are interested in conducting large-scale testing and simulations on the integrity of structures subjected to earthquakes, wind, and other extreme loadings. Public tours are scheduled for the 4th Thursday of every month from 12-2 PM.

Goals: Not available

Areas: Engineering (Civil engineering)

Primary Population Served:  
Age: General audience  
Gender: Not available  
Race: Not available  
Socioeconomic status: Not available  
Geography: Not available

Region categories:  
St. Paul  
Minneapolis  
Metro Area

Outreach to Particular Group: No

Outreach Group(s): No

Eligibility Criteria: None

Barriers to Participation: Provide own transportation.

Number of Participants in 2009: 200
<table>
<thead>
<tr>
<th>Organization: MAST Lab, University of Minnesota</th>
<th>Type: Education institution</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Contact Information:</strong> Not available</td>
<td><strong>Telephone:</strong> Not available</td>
</tr>
<tr>
<td><strong>Email:</strong> Not available</td>
<td><strong>Program website:</strong> <a href="http://assam.mast.umn.edu/portal?section=local_video">http://assam.mast.umn.edu/portal?section=local_video</a></td>
</tr>
</tbody>
</table>

**Mission:** The University of Minnesota’s Multi-Axial Subassemblage Testing (MAST) Laboratory, the largest of its kind in the world, provides a powerful tool for investigating the effects of earthquakes, hurricanes, and other extreme events on large structural components up to several stories tall.

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

**Program Name:** Live Web cam

**Description:** Activities in the MAST lab can be observed by live Webcam.

**Goals:** Not available

**Areas:** Engineering

**Primary Population Served:**
- **Age:** General audience
- **Gender:** Not available
- **Race:** Not available
- **Socioeconomic status:** Not available
- **Geography:** Not available

**Region categories:**
- St. Paul
- Minneapolis
- Metro Area
- Greater Minnesota

**Outreach to Particular Group:** Not applicable

**Outreach Group(s):** Not applicable

**Eligibility Criteria:** Not applicable

**Barriers to Participation:** Computer/Internet access.

**Number of Participants in 2009:** Not applicable
<table>
<thead>
<tr>
<th>Contact Information:</th>
<th>Telephone: Not available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phil Engen</td>
<td>Email: <a href="mailto:engen010@umn.edu">engen010@umn.edu</a></td>
</tr>
<tr>
<td></td>
<td>Program website: <a href="http://www.mrsec.umn.edu/">http://www.mrsec.umn.edu/</a></td>
</tr>
</tbody>
</table>

**Organization:** Materials Research Science & Engineering Center, University of Minnesota  
**Type:** Education institution

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

**Program Name:** Research Experience for Teachers

**Description:** The Research Experience for Teachers (RET) is a six-week program that provides an ideal intellectual setting for quality research, high achievement, and teaching, and an inspirational environment and unique experience for high school teachers. RET participants will be active members of our faculty's research groups and will be included in the workshops and courses available during the summer program.

**Goals:** Not available

**Areas:** Science  
Engineering

**Primary Population Served:**

- **Age:** Teachers, Grades 9-12  
- **Gender:** Not available  
- **Race:** Not available  
- **Socioeconomic status:** Not available  
- **Geography:** Not available

**Age categories:** Teachers  
**Region categories:**  
- St. Paul  
- Minneapolis  
- Metro Area

**Outreach to Particular Group:** Yes

**Outreach Group(s):** High school teachers.

**Eligibility Criteria:** By application.

**Barriers to Participation:** No

**Number of Participants in 2009:** 6
Organization: Math Masters of Minnesota

Type: Nonprofit

Contact Information:
Janel Horner
Executive Director
301 NW 3rd St.
Austin, MN 55912

Telephone: 507-437-9366 or 507-884-9932
Email: mathmasters@austin.k12.mn.us
Program website: http://www.mathmastersmn.org

Mission: The program challenges students to use critical-thinking skills and problem-solving abilities in mathematics while recognizing academic effort and achievement.

Offers STEM Programs/Services for 4th-12th Grade Students: Yes

Program Name: Math Masters of Minnesota

Description: Math competition at over 40 sites. Students compete individually and as teams.

Goals: We believe young students who prepare for and participate in mathematics competitions will be inspired to enhance their proficiency in mathematics and critical thinking skills.

Areas: Math

Primary Population Served:

<table>
<thead>
<tr>
<th>Age</th>
<th>Grades 5-6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Both</td>
</tr>
<tr>
<td>Race</td>
<td>All</td>
</tr>
<tr>
<td>Socioeconomic status</td>
<td>All</td>
</tr>
<tr>
<td>Geography</td>
<td>Competitions are open to all areas.</td>
</tr>
</tbody>
</table>

Age categories: Elementary
Region categories: St. Paul
Minneapolis
Metro Area
Greater Minnesota

Outreach to Particular Group: Yes

Outreach Group(s): All 5th and 6th grade students.

Eligibility Criteria: Open to all.

Barriers to Participation: Fee, transportation to competition.

Number of Participants in 2009: 4,725
Organization: Matoska International

Type: Education institution

Contact Information:
Ananth Pai
3rd Grade Classroom Teacher
2530 Spruce Place
White Bear Lake, MN 55110

Telephone: 651-653-2853
Email: ananthpaius@gmail.com
Program website: http://sites.google.com/site/teamdrillhead

Mission: K-5.

Offers STEM Programs/Services for 4th-12th Grade Students: Yes

Program Name: Academic results-oriented classroom as measured by MCA/NWEA MAP test. Individualized learning using data, and scalable, game-based curriculum in reading, math, and other areas.

Description: Technology driven re-engineering of classroom operations to serve learners, at all levels, and grow everyone from the lowest to highest percentile. Achieve over 20 percentile growth in classwide performance and grow student academic gains by two years.

Goals: See website: http://sites.google.com/site/teamdrillhead.

Areas: Technology
Math

Primary Population Served:
Age: Grade 3
Gender: Both
Race: All
Socioeconomic status: 30% low and reduced lunch
Geography: White Bear Lake

Age categories: Elementary
Region categories: Metro Area

Outreach to Particular Group: All are welcome to visit our classroom, use our website, and learn from our experience.

Outreach Group(s): Not available

Eligibility Criteria: Not available

Barriers to Participation: Not available

Number of Participants in 2009: Not available
Organization: Medtronic, Inc.  
Type: Business/industry

Contact Information:  
Sarah Audet  
Engineering Director  
8200 Coral Sea St. NE, MS MVN42  
Mounds View, MN 55112  

Telephone: 763-526-0137  
Email: sarah.audet@medtronic.com  
Program website: Not available

Mission: Allieving pain, restoring health, extending life.

Offers STEM Programs/Services for 4th-12th Grade Students: Yes

Program Name: Medtronic Foundation STAR grants

Description: Grants of up to $50k given annually for K-12 education after proposal review.

Goals: We support educational programs from preschool to higher education with a focus on those that stimulate and sustain the interest of young people in science, engineering, and healthcare. We consider requests from private and parochial nonprofit schools, school districts, and other nonprofit organizations. Priority is given to programs that serve socioeconomically disadvantaged students.

Areas: Science (All areas of education)  
Technology (All areas of education)  
Engineering (All areas of education)  
Math (All areas of education)  
Other (All areas of education)

Primary Population Served:  
Age: Grades K-12  
Gender: Both  
Race: All  
Socioeconomic status: All  
Geography: Areas of the US where Medtronic has units

Region categories:  
St. Paul  
Minneapolis  
Metro Area

Outreach to Particular Group: No

Outreach Group(s): Not applicable

Eligibility Criteria: Open to educators of K-12.

Barriers to Participation: None.

Number of Participants in 2009: Not available
### Organization: Mentoring Partnership of Minnesota
### Type: Nonprofit

#### Contact Information:
- **Mai-Anh Kapanke**
  - Associate Director
  - 81 S. 9th St., Ste. 200
  - Minneapolis, MN 55402
  - Telephone: 612-370-9169
  - Email: mai-anh@mpmn.org

#### Mission:
The Mentoring Partnership of Minnesota leads the state in building and sustaining quality mentoring for every child.

#### Offers STEM Programs/Services for 4th-12th Grade Students: Yes

### Program Name: Wired for 2020

#### Description:
Wired for 2020 is the Mentoring Partnership of Minnesota’s (MPM) engagement campaign to get more mentors involved with youth in the state of Minnesota, with a special focus on STEM. It is our mission to interest caring adults in becoming mentors to youth—caring adults who are willing to help young people spark their future career interests and expand their possibilities. Through the Wired for 2020 website and last year’s Wired for 2020 Event at the Mall of America, MPM hopes to provide youth and their mentors with resources, edutainment, and social media tools useful in engaging them in conversations about their future opportunities. The Wired for 2020 Event was held at the Mall of America, where exhibitors helped young people explore future careers by featuring high-tech, interactive exhibits representing innovations in their respective fields.

#### Goals:
To engage mentors and youth in thinking about their futures, including STEM opportunities available to them.

#### Areas:
- **Science** (Potential careers in science)
- **Technology** (Social media engagement, Potential careers in technology)
- **Engineering** (Potential careers in engineering)
- **Math** (Potential careers in math)
- **Other** (Mentoring, Preparation for postsecondary success)

#### Primary Population Served:
- **Age:** Ages 5-18
- **Gender:** Both
- **Race:** All
- **Socioeconomic status:** All
- **Geography:** We serve mentors, mentees, and mentoring programs primarily in Minnesota, but we offer training and services to programs across the upper Midwest.

#### Outreach to Particular Group: Yes

#### Outreach Group(s): Mentoring programs, mentors, and mentees.

#### Eligibility Criteria:
Open to the public.

#### Barriers to Participation:
Must have Internet access.

#### Number of Participants in 2009: 0
**Organization:** Metro ECSU  
**Type:** Nonprofit

**Contact Information:**  
3055 Old Highway 8, Suite 302  
St. Anthony, MN 55418  
Telephone: 612-638-1500  
Email: Not available  

**Mission:** Deliver quality resources and services into the hands of our education partners. To accomplish our mission Metro ECSU is committed to: 1) Remain current on educational trends and evidence based practices that support student learning; 2) Collaborate with education partners to continually identify their needs; 3) Engage partners in defining, pursuing and providing quality resources and services; 4) Provide high quality, cost- effective customer centered resources and services; 5) Utilize qualitative and quantitative data to support continuous improvement of resources and services; 6) Communicate and respond to cultivate positive customer and community relations.

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

**Program Name: Success Beyond the Classroom**

**Description:** Success Beyond the Classroom (SBC) reaches 20,000 students and their teachers every year. Through SBC, a nonprofit organization, students discover how learning in school links to success in the world beyond. Among the many SBC activities, students construct simulated cities with engineer mentors, write with published authors, design original inventions, and build connections with other successful adults in business, science, and the arts. Programs include Student Creativity Festivals, Future City Competition, Knowledge Bowl, Young Inventors Program, STEM Quest, and others.

**Goals:** SBC’s programs seek to stretch students beyond the typical school experience and actively engage them in the world outside school walls.

**Areas:**  
Science  
Technology  
Engineering  
Math

**Primary Population Served:**  
Age: Middle school and high school (depending on the particular program/competition)  
Gender: Both  
Race: All  
Socioeconomic status: All  
Geography: Not available

**Age categories:**  
Junior high  
High school

**Region categories:**  
St. Paul  
Minneapolis  
Metro Area

**Outreach to Particular Group:** Not available

**Outreach Group(s):** Not available

**Eligibility Criteria:** Not available

**Barriers to Participation:** Not available

**Number of Participants in 2009:** 20,000
**Organization:** Metropolitan State University  
**Type:** Education institution

**Contact Information:**  
Cindy Kaus  
Associate Professor  
700 East 7th Street  
St. Paul, MN 55106  
Telephone: 651-793-1425  
Email: cindy.kaus@metrostate.edu  
Program website: Not available

**Mission:** Education

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

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### Program Name: Mpower - Empowering Urban Middle School Girls through Math and Science

**Description:** Mpower is a year-long program that begins with a week-long summer camp for girls entering grades 7, 8, and 9 in the fall. The program continues in the academic year with the girls returning to the Metropolitan State University campus for one day in the fall semester and one day in the spring semester. The curriculum explores topics from mathematics and science and includes field trips to places such as Leonardo's Basement, a river boat trip on the Mississippi River to collect water samples, and the Stem Cell Institute at the University of Minnesota. The week-long camp is free and targets young women from underrepresented groups. (Program was put on hold for the 2009-10 academic year due to funding and workload constraints.)

**Goals:** To increase interest and awareness among middle school girls in the fields of mathematics and science. To prepare middle school girls for the challenging curricula in math and science that they will have the opportunity to take in high school. To increase interest and awareness in occupations which rely heavily on an education in mathematics and science.

**Areas:**  
- Science (Biology, Ecology, Geology)  
- Technology (Programming)  
- Engineering (Mechanical, Structural)  
- Math (Applications of mathematics to the real world)

**Primary Population Served:**  
- **Age:** Grades 7-9  
- **Gender:** Female  
- **Race:** The program targets students of color and typically enrolls about 60% students of color (African/African American, Hmong, Hispanic).  
- **Socioeconomic status:** The program targets students from lower-income families and typically enrolls about 50% of students at the lower income level.  
- **Geography:** Saint Paul Public School District

**Outreach to Particular Group:** Yes

**Outreach Group(s):** Underrepresented students in STEM fields.

**Eligibility Criteria:** Open to any middle school student in the Saint Paul Public School District.

**Barriers to Participation:** We provide all transportation, all food and do not charge a fee for girls to attend the camp. In addition, the only prerequisite for the camp is an interest in mathematics and science.

**Number of Participants in 2009:** The program was put on hold for the 2009-2010 academic year due to lack of proper funding and workload issues for the co-directors. The average number of participants since the beginning of the program in 2005 has been 22 students.
**Organization:** Minneapolis Community and Technical College  
**Type:** Education institution

**Contact Information:**  
Telephone: Not available  
Email: Not available  
Program website: [http://k12.minneapolis.edu/](http://k12.minneapolis.edu/)

**Mission:** Our Vision: To collaborate with our public and charter school education partners to prepare all students to access college and acquire the necessary skills to be successful in career pathways of the future. Our Mission: Through collaboration with the Minneapolis public and charter schools, MCTC's K-12 Connections Department will train and educate students, teachers, counselors, administrators, and parents on current labor market trends, college and career readiness standards, and life skills that promote college and career success. Through extensive reachback to middle schools, we will provide hands-on learning opportunities for students to explore high wage and high demand jobs of the future. In partnership with high schools, we will provide ongoing professional development for teachers and counselors regarding college readiness standards, opportunities for students to earn PSEO and concurrent college credits, early Accuplacer assessment, and summer college-readiness coursework through the Jump Start to College program.

**Offers STEM Programs/Services for 4<sup>th</sup>-12<sup>th</sup> Grade Students:** Yes

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**Program Name:** High Tech Girls' Society & High Tech Boys' Society

**Description:** High Tech Girl's Society is a program run by Minneapolis Public Schools in conjunction with their partnership with the Minneapolis Community and Technical College. Our mission is to increase the representation and success of girls in our high tech CTEC programs such as Project Lead The Way, a pre-engineering program, Aviation, and Automotive programs and support these female students in transitioning to high tech post-secondary education and/or related employment in non-traditional careers for women. High Tech Boys: The Minneapolis Public Schools runs a High Tech Boys' Society in conjunction with their partnership with Minneapolis Community and Technical College. Our mission is to provide an opportunity for male students to learn about the latest trends and best practices in the high-tech industries through education, relevant field trips, speaker series, student competitions, and leadership development.

**Goals:** See program description.

**Areas:** Technology  
Engineering

**Primary Population Served:**

<table>
<thead>
<tr>
<th>Age: Middle school and high school</th>
<th>Age categories:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender: Girls' Society - Females; Boys' Society - Males</td>
<td>Junior high</td>
</tr>
<tr>
<td>Race: All</td>
<td>High school</td>
</tr>
<tr>
<td>Socioeconomic status: All</td>
<td>Region categories:</td>
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<tr>
<td>Geography: Minneapolis Public Schools</td>
<td>Minneapolis</td>
</tr>
</tbody>
</table>

**Outreach to Particular Group:** Yes

**Outreach Group(s):** Minneapolis Public Schools

**Eligibility Criteria:**

**Barriers to Participation:** Not available

**Number of Participants in 2009:** Not available
Organization: Minneapolis Community and Technical College
        K-12 Connections Program
        
        Contact Information:
        Not available

        Type: Education institution

        Telephone: Not available
        Email: Not available
        Program website: http://k12.minneapolis.edu/

        Mission: Our Vision: To collaborate with our public and charter school education partners to prepare all students to access college and acquire the necessary skills to be successful in career pathways of the future. Our Mission: Through collaboration with the Minneapolis public and charter schools, MCTC's K-12 Connections Department will train and educate students, teachers, counselors, administrators, and parents on current labor market trends, college and career readiness standards, and life skills that promote college and career success. Through extensive reachback to middle schools, we will provide hands-on learning opportunities for students to explore high wage and high demand jobs of the future. In partnership with high schools, we will provide ongoing professional development for teachers and counselors regarding college readiness standards, opportunities for students to earn PSEO and concurrent college credits, early Accuplacer assessment, and summer college-readiness coursework through the Jump Start to College program.

        Offers STEM Programs/Services for 4th-12th Grade Students: Yes

        Program Name: Windows on the World: The W.O.W. Career and College Experience

        Description: MCTC reaches out in many ways to help high school students explore career choices. For example, MCTC partners with AchieveMPLS and the Minneapolis Public Schools to offer a week-long, hands-on summer experience to introduce students to career opportunities in nursing, welding, information technology, carpentry, business management, and more. Space is limited to incoming 10th, 11th, and 12th grade Minneapolis Public Schools students. In addition to career exploration, students will take classes in financial literacy, career interest and strengths inventory, learning and communication styles, problem-solving skills, team building, interviewing skills, making sense of paperwork, college knowledge, and interpersonal skills.

        Goals: See program description.

        Areas:
        Science
        Technology
        Engineering
        Math
        Other (Career exploration)

        Primary Population Served:
        Age: Grades 10-12
        Gender: Both
        Race: All
        Socioeconomic status: All
        Geography: Minneapolis

        Age categories: High school
        Region categories: Minneapolis

        Outreach to Particular Group: Not available

        Outreach Group(s): Not available

        Eligibility Criteria: Minneapolis Public Schools

        Barriers to Participation: Not available

        Number of Participants in 2009: Not available
Organization: Minneapolis Community and Technical College
K-12 Connections Program

Type: Education institution

Contact Information:
Not available

Telephone: Not available
Email: Not available
Program website: http://k12.minneapolis.edu/

Mission: Our Vision: To collaborate with our public and charter school education partners to prepare all students to access college and acquire the necessary skills to be successful in career pathways of the future. Our Mission: Through collaboration with the Minneapolis public and charter schools, MCTC’s K-12 Connections Department will train and educate students, teachers, counselors, administrators, and parents on current labor market trends, college and career readiness standards, and life skills that promote college and career success. Through extensive reachback to middle schools, we will provide hands-on learning opportunities for students to explore high wage and high demand jobs of the future. In partnership with high schools, we will provide ongoing professional development for teachers and counselors regarding college readiness standards, opportunities for students to earn PSEO and concurrent college credits, early Accuplacer assessment, and summer college-readiness coursework through the Jump Start to College program.

Offers STEM Programs/Services for 4th-12th Grade Students: Yes

Program Name: Workshops for Middle School Students

Description: It’s never too early to start thinking about college and a future career. MCTC works with Minneapolis middle schools to bring students to campus for hands-on learning experiences in a variety of technical and career programs. Students may build robots in our IT program, work in the welding lab, or sit in on a nursing class. Contact us to schedule a day for students at your school to visit during the 2010-2011 school year.

Goals: Not available

Areas: Science
Technology
Engineering
Math
Other (Career exploration)

Primary Population Served:
Age: Middle school students
Gender: Both
Race: All
Socioeconomic status: All
Geography: Minneapolis

Age categories: Junior high
Region categories: Minneapolis

Outreach to Particular Group: Not available

Outreach Group(s): Not available

Eligibility Criteria: Partner school, Minneapolis Public Schools.

Barriers to Participation: Not available

Number of Participants in 2009: Not available
<table>
<thead>
<tr>
<th>Organization: Minneapolis Public Schools</th>
<th>Type: Education institution</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Contact Information:</strong></td>
<td></td>
</tr>
<tr>
<td>Joe Alfano</td>
<td>Telephone: 612-668-5374</td>
</tr>
<tr>
<td>Science Specialist</td>
<td>Email: <a href="mailto:joe.alfano@mpls.k12.mn.us">joe.alfano@mpls.k12.mn.us</a></td>
</tr>
<tr>
<td>Minneapolis, MN 55413</td>
<td></td>
</tr>
</tbody>
</table>

**Mission:** Education

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

<table>
<thead>
<tr>
<th>Program Name: Engineering is Elementary</th>
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</thead>
<tbody>
<tr>
<td><strong>Description:</strong> Core science curriculum.</td>
</tr>
<tr>
<td><strong>Goals:</strong> Meet science standards.</td>
</tr>
<tr>
<td><strong>Areas:</strong> Science Technology</td>
</tr>
</tbody>
</table>

**Primary Population Served:**
- **Age:** Grades K-5
- **Gender:** All students
- **Race:** All students
- **Socioeconomic status:** All students
- **Geography:** Minneapolis Public Schools students

<table>
<thead>
<tr>
<th>Age categories:</th>
<th>Region categories:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary</td>
<td>Minneapolis</td>
</tr>
<tr>
<td>Metro Area</td>
<td></td>
</tr>
</tbody>
</table>

**Outreach to Particular Group:** All students

**Outreach Group(s):** Not applicable

**Eligibility Criteria:** All students.

**Barriers to Participation:** Not applicable

**Number of Participants in 2009:** 2,500 (Engineering is Elementary and FOSS)
Organization: Minneapolis Public Schools

Type: Education institution

Contact Information:
Joe Alfano
Science Specialist
807 NE Broadway
Minneapolis, MN 55413

Telephone: 612-668-5374
Email: joe.alfano@mpls.k12.mn.us
Program website: http://www.fossweb.com/

Mission: Education

Offers STEM Programs/Services for 4th-12th Grade Students: Yes

Program Name: FOSS

Description: Core science curriculum.

Goals: Meet science standards.

Areas: Science
Technology

Primary Population Served:
Age: Grades K-5
Gender: All students
Race: All students
Socioeconomic status: All students
Geography: Minneapolis Public Schools students

Age categories: Elementary
Region categories: Minneapolis
Metro Area

Outreach to Particular Group: All students

Outreach Group(s): Not applicable

Eligibility Criteria: All students.

Barriers to Participation: Not applicable

Number of Participants in 2009: 2,500 (Engineering is Elementary and FOSS)
| Organization: Minneapolis Public Schools | Type: Education institution |
| Contact Information: Not available | Telephone: Not available |
| Email: Not available | Program website: [http://alc.mpls.k12.mn.us/gems_and_gise_2.html](http://alc.mpls.k12.mn.us/gems_and_gise_2.html) |

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

### Program Name: Girls in Engineering, Mathematics, and Science (GEMS)

**Description:** Girls in Engineering, Mathematics, and Science (GEMS) and Guys in Science and Engineering (GISE) are after-school and summer programs designed specifically for 4th - 8th grade girls and boys (respectively) in the Minneapolis Public School District with the goal that students will have measurable and significant gains in mathematics and science. Inaugurated in 1997, the success of GEMS prompted the development of GISE in 2006. GEMS and GISE are supported through the collaborative efforts of the Minneapolis Public School District, the Minneapolis Federation of Teachers, and Achieve!Minneapolis. Principal benefactors and community partners include The Medtronic Foundation, The Cargill Foundation, ADC Foundation, HighTechKids, The Bakken Museum, Lockheed Martin, NASA, and Augsburg College.

**Goals:** Students will have measurable and significant gains in mathematics and science.

**Areas:** Science, Engineering, Math

**Primary Population Served:**
- Age: Grades 4-8
- Gender: Girls
- Race: Not available
- Socioeconomic status: Not available
- Geography: Minneapolis

<table>
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<tr>
<th>Age categories:</th>
<th>Elementary</th>
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<tr>
<td>Region categories:</td>
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<tr>
<td></td>
<td>Metro Area</td>
</tr>
</tbody>
</table>

**Outreach to Particular Group:** Not available

**Outreach Group(s):** Not available

**Eligibility Criteria:** Students in Minneapolis Public School District.

**Barriers to Participation:** Not available

**Number of Participants in 2009:** Not available
Organization: Minneapolis Public Schools  
Type: Education institution

Contact Information:  
Not available  
 Telephone: Not available  
 Email: Not available  
 Program website:  
[http://alc.mpls.k12.mn.us/gems_and_gise_2.html](http://alc.mpls.k12.mn.us/gems_and_gise_2.html)

**Offers STEM Programs/Services for 4th-12th Grade Students**: Yes

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**Program Name: Guys in Science and Engineering (GISE)**

**Description**: Girls in Engineering, Mathematics, and Science (GEMS) and Guys in Science and Engineering (GISE) are after-school and summer programs designed specifically for 4th - 8th grade girls and boys (respectively) in the Minneapolis Public School District with the goal that students will have measurable and significant gains in mathematics and science. Inaugurated in 1997, the success of GEMS prompted the development of GISE in 2006. GEMS and GISE are supported through the collaborative efforts of the Minneapolis Public School District, the Minneapolis Federation of Teachers, and Achieve!Minneapolis. Principal benefactors and community partners include The Medtronic Foundation, The Cargill Foundation, ADC Foundation, HighTechKids, The Bakken Museum, Lockheed Martin, NASA, and Augsburg College.

**Goals**: Students will have measurable and significant gains in mathematics and science.

**Areas**:  
Science  
Engineering  
Math

**Primary Population Served**:  
Age: Grades 4-8  
Gender: Boys  
Race: Not available  
Socioeconomic status: Not available  
Geography: Minneapolis  
Age categories: Elementary  
Region categories: Minneapolis

**Outreach to Particular Group**: Not available

**Outreach Group(s)**: Not available

**Eligibility Criteria**: Students in Minneapolis Public School District.

**Barriers to Participation**: Not available

**Number of Participants in 2009**: Not available
**Organization:** Minneapolis Public Schools - Augsburg College - GEMS (Girls in Engineering, Math, and Science) Summer Program

**Type:** Education institution

**Contact Information:**
Melinda Stapely  
Minneapolis Public Schools  
807 NE Broadway, Room 13,  
Minneapolis, MN 55413

Barbara Farley Ph.D.  
Augsburg College  
2211 Riverside Avenue South  
Minneapolis, MN 55454

Telephone: 612-668-0730  
Email: Melinda.Stapley@mpls.k12.mn.us  
Program website:  
http://alc.mpls.k12.mn.us/gems_and_gise_2.html

**Mission:** GEMS is an after-school science, math, and technology enrichment project for young women (grades 4-8) in Minneapolis, Minnesota. The goal of GEMS is to give young urban women a greater understanding of complex problem solving while learning and using technology, science, and mathematics.

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

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**Program Name:** GEMS After-School Program

**Description:** GEMS is an after-school science, math, and technology enrichment project for young women (grades 4-8) in Minneapolis, Minnesota. The GEMS program comes to Augsburg College for extended SMET programs during the summer. Fourth- through twelfth-grade students and teachers work with Augsburg undergraduate mentors developing exciting SMET projects and presenting those projects to family and the community at the end of the summer.

**Goals:** The goal of GEMS is to give young urban women a greater understanding of complex problem solving while learning and using technology, science, and mathematics.

**Areas:**  
Science  
Engineering  
Math  
Other (Complex problem solving)

**Primary Population Served:**  
Age: Grades 4-8, 9-12 High school Mentors, undergraduate college mentors  
Gender: Female  
Race: All  
Socioeconomic status: All, focus on urban students  
Geography: Minneapolis  
Age categories:  
Elementary  
Junior high  
Region categories:  
Minneapolis  
Metro Area

**Outreach to Particular Group:** Not available

**Outreach Group(s):** Not available

**Eligibility Criteria:** Minneapolis Public Schools, grades 4-12.

**Barriers to Participation:** Not available

**Number of Participants in 2009:** Not available
**Organization:** Minnesota Center for Engineering and Manufacturing Excellence  
**Type:** Education institution

**Contact Information:**  
James Mecklenburg  
Project Lead The Way Program Director  
17138 170th Street Southeast  
Big Lake, MN 55309  
*Telephone:* 320-493-5229  
*Email:* james.mecklenburg@mnsu.edu  

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

### Program Name: Project Lead The Way

**Description:** Project Lead the Way (PLTW) is a national program aimed at middle and high school students. Implemented through the Center for Excellence, it helps schools give students the knowledge needed to excel in high technology fields. Studies of the program's curriculum prove that its student become the prepared, competent employees that U.S. industries need to stay competitive in the global market. Project Lead the Way's goal is to increase the number, quality, and diversity of the engineers graduating from our educational system. This program also offers students the chance to find out if engineering is a viable career choice. Research confirms that students introduced to engineering principles, concepts, and practical problems in high school are better prepared for – and more likely to be successful in – college programs. Currently, over 200 Minnesota schools participate in Project Lead the Way. Gateway to Engineering is a six-unit middle school program characterized by the following: designed to help all students explore math, science, and technology; flexible, project-based, cutting-edge curriculum; taught in conjunction with rigorous core middle school courses; and adheres to national standards in math, science, and technology. Pathway to Engineering is an eight-unit high school program characterized by the following: designed for students seeking more in-depth, hands-on knowledge of engineering and technology-based careers; flexible, cutting-edge curriculum that emphasizes problem-solving skills; taught in conjunction with college preparatory math and science courses; and adheres to national standards in math, science, and technology.

**Goals:** PLTW's rigorous curriculum makes science, technology, engineering, and mathematics (STEM) relevant for students. By engaging in hands-on real-world projects, students begin to understand how the skills they are learning in the classroom can be applied in everyday life.

**Areas:**  
Science  
Technology  
Engineering  
Math  
Other (Innovation)

**Primary Population Served:**  
**Age:** Grades K-12  
**Gender:** Both  
**Race:** All  
**Socioeconomic status:** All  
**Geography:** 50 States and the Disrict of Columbia

**Age categories:**  
- Elementary  
- Junior high  
- High school

**Region categories:**  
- St. Paul  
- Minneapolis  
- Metro Area  
- Greater Minnesota

**Outreach to Particular Group:** Yes

**Outreach Group(s):** K-12 schools, colleges, and universities

**Eligibility Criteria:** Schools must join PLTW and meet requirements.

**Barriers to Participation:** None

**Number of Participants in 2009:** Not available
<table>
<thead>
<tr>
<th>Organization: Minnesota Center for Engineering and Manufacturing Excellence</th>
<th>Type: Education institution Nonprofit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Contact Information:</strong></td>
<td>Telephone: 507-389-2210</td>
</tr>
<tr>
<td>Judith Evans</td>
<td>Email: <a href="mailto:judith.evans@mnsu.edu">judith.evans@mnsu.edu</a></td>
</tr>
<tr>
<td>Associate Director</td>
<td>Program website: Not available</td>
</tr>
<tr>
<td>131 Trafton Science Center N, Minnesota State University Mankato, MN 56001</td>
<td></td>
</tr>
</tbody>
</table>

**Mission:** The Minnesota Center for Engineering & Manufacturing Excellence leads and stimulates innovative collaboration among industry, education, and allied organizations to equip Minnesota manufacturers with an educated workforce to compete worldwide.

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

**Program Name:** ZAP Camps

**Description:** Summer STEM camp experiences at MNCEME partner campuses for students.

**Goals:** Expose students to engineering and manufacturing career paths.

**Areas:**
- Technology
- Engineering
- Other (Teamwork and collaboration)

**Primary Population Served:**
- Age: Grades 6-8
- Gender: Both
- Race: All
- Socioeconomic status: All
- Geography: Located on MNCEME partner school campuses across the state.

**Age categories:**
- Elementary
- Junior high

**Region categories:**
- St. Paul
- Minneapolis
- Metro Area
- Greater Minnesota

**Outreach to Particular Group:** Yes

**Outreach Group(s):** MSU camp focused on hispanic students this year.

**Eligibility Criteria:** Open to public

**Barriers to Participation:** None.

**Number of Participants in 2009:** 282
<table>
<thead>
<tr>
<th>Organization: Minnesota Center for Engineering and Manufacturing Excellence</th>
<th>Type: Education institution Nonprofit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact Information:</td>
<td>Telephone: 507-389-2210</td>
</tr>
<tr>
<td>Judith Evans</td>
<td>Email: <a href="mailto:judith.evans@mnsu.edu">judith.evans@mnsu.edu</a></td>
</tr>
<tr>
<td>Associate Director</td>
<td>Program website: Not available</td>
</tr>
<tr>
<td>131 Trafton Science Center N, Minnesota State University</td>
<td></td>
</tr>
<tr>
<td>Mankato, MN 56001</td>
<td></td>
</tr>
</tbody>
</table>

**Mission:** The Minnesota Center for Engineering & Manufacturing Excellence leads and stimulates innovative collaboration among industry, education, and allied organizations to equip Minnesota manufacturers with an educated workforce to compete worldwide.

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

### Program Name: Rube Goldberg Competition

**Description:** High school competition in which students build machines with 20 steps or more.

**Goals:** Foster problem-solving, physics, engineering principles.

**Areas:** Science (Physics)  
Engineering (Steps to solve the problem)  
Math (Calculating measurements needed to build and execute the machine)  
Other (Innovative problem solving)

**Primary Population Served:**

<table>
<thead>
<tr>
<th>Age: Grades 10-12</th>
<th>Age categories: High school</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender: Both</td>
<td>Region categories:</td>
</tr>
<tr>
<td>Race: All</td>
<td>St. Paul</td>
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<tr>
<td>Socioeconomic status: All</td>
<td>Minneapolis</td>
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<tr>
<td>Geography: Minnesota</td>
<td>Metro Area</td>
</tr>
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</table>

**Outreach to Particular Group:** No

**Outreach Group(s):** Not applicable

**Eligibility Criteria:** Open to public schools districts.

**Barriers to Participation:** None.

**Number of Participants in 2009:** 200
<table>
<thead>
<tr>
<th>Organization:</th>
<th>Minnesota Children's Museum</th>
<th>Type:</th>
<th>Museum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact Information:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jill Measells</td>
<td>Telephone: 651-225-6018</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vice President - Learning Experiences</td>
<td>Email: <a href="mailto:jmeasells@mcm.org">jmeasells@mcm.org</a></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 West 7th Street</td>
<td>Program website: Not available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>St. Paul, MN 55102</td>
<td></td>
<td></td>
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<tr>
<td>Mission:</td>
<td>Sparking children's learning through play.</td>
<td></td>
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<td>Offers STEM Programs/Services for 4th-12th Grade Students:</td>
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<td>Program description not applicable</td>
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<tr>
<td>Organization:</td>
<td>Minnesota Computers for Schools</td>
<td>Type:</td>
<td>Nonprofit</td>
</tr>
<tr>
<td>--------------</td>
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</tr>
</tbody>
</table>

**Contact Information:**
Tamara Gillard  
Executive Director  
970 Pickett Street North  
Bayport, MN 55003  
Telephone: 651-779-2816  
Email: tamara.gillard@state.mn.us  
Program website: [http://www.mncfs.org](http://www.mncfs.org)

**Mission:** Minnesota Computers for Schools (MCFS) improves student success by transforming donated computer technology into greater educational opportunity for K-12 students in Minnesota.

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

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**Program Name: Minnesota Computers for Schools**

**Description:** Computer technology for K-12 schools in Minnesota and educational nonprofit programs. Minnesota's K-12 students receive the technology they need to prepare for their future. These refurbished computers are made available to schools and educational nonprofit organizations providing vital educational programming. Minnesota businesses can donate their recently replaced (but still usable) computers confident that students will benefit.

**Goals:** To place 3,400 computers in schools and educational nonprofits in 2011 to improve technology access for Minnesota students. To provide equipment for STEM projects in the classroom and after school programs such as First Robotics, First Lego League.

**Areas:** Science (We partner with Bitwixt software developer to create chemistry simulation labs with the Atomsmith software.)  
Technology (We refurbish and place computer technology in the hands of Minnesota students.)

**Primary Population Served:**
- Age: Grades K-12  
- Gender: Both  
- Race: All  
- Socioeconomic status: Emphasis on low-income economically disadvantaged youth.  
- Geography: Minnesota

**Region categories:**  
- St. Paul  
- Minneapolis  
- Metro Area  
- Greater Minnesota

**Outreach to Particular Group:** Yes

**Outreach Group(s):** Emphasis on low-income, economically disadvantaged areas of Minnesota and children with special needs.

**Eligibility Criteria:** K-12 Minnesota school or educational nonprofit, children with special needs.

**Barriers to Participation:** Not available

**Number of Participants in 2009:** Chemistry simulation labs are only available in participating schools.
**Organization:** Minnesota Computers for Schools  
**Type:** Nonprofit

**Contact Information:**
Tamara Gillard  
Executive Director  
970 Pickett Street North  
Bayport, MN 55003  
Telephone: 651-779-2816  
Email: tamara.gillard@state.mn.us  
Program website: [http://www.mncfs.org](http://www.mncfs.org)

**Mission:** Minnesota Computers for Schools (MCFS) improves student success by transforming donated computer technology into greater educational opportunity for K-12 students in Minnesota.

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

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**Program Name:** Special Kids

**Description:** Education is important for the development of all young people. Our system is set up to serve them within the classroom. Unfortunately, there are many students who need additional help. Special Kids is a program designed to assist those young people who are frequently absent or having significant difficulties in the classroom because of chronic illness or other special needs. It makes Pentium 4 computers available to them for only $50 or Pentium 4 laptops available for only $100. The remaining $100-150 of the regular price is funded through special donations. Modems or printers could be provided, upon request, if available at time of purchase. Families will be responsible for obtaining their own Internet service provider, as well as software. We do not have adaptive equipment available.

**Goals:** To assist as many special needs students as possible through our grant writing in 2011.

**Areas:** Technology (Computer/laptop technology to assist special needs students)

**Primary Population Served:**
- **Age:** Grades K-12  
- **Gender:** Both  
- **Race:** All  
- **Socioeconomic status:** Emphasis on economically disadvantaged youth.  
- **Geography:** Minnesota

**Age categories:**
- Elementary  
- Junior high  
- High school

**Region categories:**
- St. Paul  
- Minneapolis  
- Metro Area  
- Greater Minnesota

**Outreach to Particular Group:** Yes

**Outreach Group(s):** Students with special needs.

**Eligibility Criteria:** Not available

**Barriers to Participation:** Not available

**Number of Participants in 2009:** 85
### Organization: Minnesota Department of Education

**Type:** Other government

### Contact Information:

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Telephone</th>
<th>Email</th>
<th>Program website</th>
</tr>
</thead>
<tbody>
<tr>
<td>John Olson</td>
<td>Science Specialist</td>
<td>651-582-8673</td>
<td><a href="mailto:john.c.olson@state.mn.us">john.c.olson@state.mn.us</a></td>
<td><a href="http://education.state.mn.us">http://education.state.mn.us</a></td>
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</table>

### Mission:
Support and lead K-12 education efforts.

### Offers STEM Programs/Services for 4th-12th Grade Students:
Yes

### Program Name: Scholars of Distinction

**Description:** Students submit papers describing research in science or mathematics and receive statewide recognition.

**Goals:** Recognition of outstanding scholarship in science, mathematics, and other areas.

**Areas:** Science

- Math

### Primary Population Served:

<table>
<thead>
<tr>
<th>Age:</th>
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<tbody>
<tr>
<td>Gender:</td>
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<tr>
<td>Race:</td>
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<tr>
<td>Socioeconomic status:</td>
<td>All</td>
</tr>
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<td>Geography:</td>
<td>Minnesota</td>
</tr>
</tbody>
</table>

**Age categories:**
- High school

**Region categories:**
- St. Paul
- Minneapolis
- Metro Area
- Greater Minnesota

### Outreach to Particular Group:
No

### Outreach Group(s):
Not applicable

### Eligibility Criteria:
Any.

### Barriers to Participation:
None.

### Number of Participants in 2009:
Not available
Organization: Minnesota Department of Education

Type: Other government

Contact Information:
John Olson
Science Specialist
1500 Hwy 36 West
Roseville, MN 55113

Telephone: 651-582-8673
Email: john.c.olson@state.mn.us
Program website: http://www.nysf.com

Mission: Support and lead K-12 education efforts.

Offers STEM Programs/Services for 4th-12th Grade Students: Yes

Program Name: National Youth Science Camp

Description: Two Minnesota delegates are chosen to participate in the National Youth Science Camp in West Virginia at no expense to the participant.

Goals: Recognition of outstanding scholarship in science and the growth of science knowledge and leadership skills.

Areas: Science

Primary Population Served:
- Age: 11th-grade students
- Gender: Both
- Race: All
- Socioeconomic status: Not available
- Geography: Minnesota

Age categories: High school
Region categories: St. Paul

Outreach to Particular Group: No

Outreach Group(s): Participants in the Minnesota State Science Fair.

Eligibility Criteria: Students are chosen through interviews at the Minnesota State Science Fair.

Barriers to Participation: Must be able to attend the camp for 3½ weeks in July.

Number of Participants in 2009: 2
**Organization:** Minnesota Department of Education  
**Type:** Education institution

**Contact Information:**
John Rapheal  
Technology Education Specialist  
1500 Highway 36 W  
Roseville, MN 55114

**Telephone:** 651-582-8682  
**Email:** john.v.rapheal@state.mn.us  
**Program website:** [http://education.state.mn.us](http://education.state.mn.us)

**Mission:** Support the education of young people across the state of Minnesota.

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

### Program Name: Carl Perkins Grant, STEM Equity Pipeline, Real World Design Challenge

**Description:** We perform a support role for other groups and agencies across the state.

**Goals:** Not available

**Areas:** Technology  
Engineering

**Primary Population Served:**
- **Age:** Grades 7-12
- **Gender:** Both
- **Race:** All
- **Socioeconomic status:** All
- **Geography:** Statewide

**Age categories:**
- St. Paul
- Minneapolis
- Metro Area
- Greater Minnesota

**Outreach to Particular Group:** Yes

**Outreach Group(s):** STEM Equity Pipeline serves nontraditional female students. Carl D. Perkins grant specifies gender equity within the Perkins consortiums.

**Eligibility Criteria:** All our functions are public functions and are open to any public school student. Many are also open to private school students as well.

**Barriers to Participation:** We have a vast array of programs and are constantly challenged with barriers to participation by the students in our school district. We have taken on these challenges and are developing strategies to assure gender equity across our programs.

**Number of Participants in 2009:** We have almost 1,000 technology education teachers across the state. We have another 200 or 300 technology/industry teachers in the MnSCU system across the state.
Organization: Minnesota Geological Survey, University of Minnesota
Type: Education institution

Contact Information:
Not available

Telephone: Not available
Email: Not available
Program website: http://www.geo.umn.edu/mgs/ask.html

Offers STEM Programs/Services for 4th-12th Grade Students: Yes

Program Name: Ask a Geologist

Description: Website available for general public to ask questions about geology.

Goals: Not available

Areas: Science

Primary Population Served:
- Age: All ages
- Gender: Not available
- Race: Not available
- Socioeconomic status: Not available
- Geography: Not available

Age categories: Elementary
- Junior high
- High school
Region categories: St. Paul
- Minneapolis
- Metro Area
- Greater Minnesota

Outreach to Particular Group: Not applicable

Outreach Group(s): Not applicable

Eligibility Criteria: Not applicable

Barriers to Participation: Not applicable

Number of Participants in 2009: Not applicable
**Organization:** Minnesota High Tech Association  
**Type:** Nonprofit

**Contact Information:**  
Jake Lantry  
Public Affairs Program Manager  
2470 Highcrest Road, Suite 100  
Roseville, MN 55113  
Telephone: 952-230-4553  
Email: jlantry@mhta.org  
Program website: [http://www.getSTEM-mn.com](http://www.getSTEM-mn.com)

**Mission:** MHTA promotes the growth, sustainability, and global competitiveness of Minnesota’s technology-based economy through advocacy, collaboration, and education.

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

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**Program Name:** getSTEM

**Description:** "getSTEM" is a web portal designed to connect Minnesota educators with science and technology businesses in order to better prepare students for post-secondary education programs and careers in science, technology, engineering, and math. Teachers may use the website to create postings to "ASK" for community assistance in having materials donated to their classroom, guest presentations, volunteers for field trips, and much more. Local businesses use the website to "OFFER" their K-12 outreach programs that teachers may incorporate into their lesson plan.

**Goals:** To foster relationships and identify mutual goals between local educators and businesses so that they can help one another develop the community’s future workforce.

**Areas:**  
Science  
Technology  
Engineering  
Math  
Other (The program has no main area of emphasis; it is applicable to anything and everything STEM-related.)

**Primary Population Served:**  
Age: Grades K-12  
Gender: Both  
Race: All  
Socioeconomic status: All  
Geography: Minnesota

**Age categories:**  
Teachers  
Region categories:  
St. Paul  
Minneapolis  
Metro Area  
Greater Minnesota

**Outreach to Particular Group:** Yes

**Outreach Group(s):** We have made a number of presentations to professional associations, Minnesota high-tech companies, and high schools and education groups across the state.

**Eligibility Criteria:** All educators and all businesses are eligible.

**Barriers to Participation:** None.

**Number of Participants in 2009:** 15,778
Organization:  Minnesota High Tech Association  
Type:  Nonprofit

Contact Information:  
Jake Lantry  
Public Affairs Program Manager  
2470 Highcrest Road, Suite 100  
Roseville, MN 55113  
Telephone: 952-230-4553  
Email: jlantry@mhta.org  
Program website: Not available

Mission:  MHTA promotes the growth, sustainability, and global competitiveness of Minnesota’s technology-based economy through advocacy, collaboration, and education.

Offers STEM Programs/Services for 4th-12th Grade Students:  Yes

Program Name:  Minnesota High Tech Foundation Scholarship Program

Description:  The Minnesota High Tech Foundation awards nine scholarships annually (six $2,000 scholarships, and three $10,000 scholarships) to undergraduate students majoring in a STEM discipline or who plan to go into STEM teaching.

Goals:  To strengthen Minnesota's future technology workforce by providing financial support to undergraduate students of accredited, Minnesota-based higher education institutions pursuing careers in STEM disciplines or STEM teaching.

Areas:  Science  
Technology  
Engineering  
Math  
Other (Also applies to those getting an education degree and who plan on teaching in a STEM discipline)

Primary Population Served:  
Age:  Sophomore through Senior undergraduate students  
Gender:  Both  
Race:  All  
Socioeconomic status:  All  
Geography:  Minnesota  
Region categories:  Not applicable

Outreach to Particular Group:  Yes

Outreach Group(s):  Higher education career counselors, and STEM departments and professors at higher education institutions.

Eligibility Criteria:  Sophomore through senior undergraduate status, and for those pursuing a degree in a STEM field or STEM teaching.

Barriers to Participation:  No, and the application states explicitly that the "MHTF Board of Directors supports diversity in the application and award process."

Number of Participants in 2009:  Not available
**Organization:** Minnesota Mathematics League

**Type:** Business/industry

**Contact Information:**
Dan Flegler  
President  
P.O. Box 120418  
New Brighton, MN 55112-0418

**Telephone:** 201-568-6328  
**Email:** dan@mathleague.com  
**Program website:** [http://www.mathleague.com](http://www.mathleague.com)

**Mission:** To provide mathematics enrichment materials for grades 4-12.

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

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**Program Name:** Minnesota Mathematics League

**Description:** We offer annual contests in April for grades 4 and 5; in February for grades 6, 7, and 8; an algebra contest in April; and a series of six monthly high school contests for grades 9-12.

**Goals:** We provide an academic enrichment activity for math classes, math clubs, and math teams. Prizes are given to schools and students at regional and statewide levels. No transportation is required.

**Areas:** Math (Mathematics enrichment activity)

**Primary Population Served:**
- **Age:** Grades 4-12  
- **Gender:** Both  
- **Race:** All  
- **Socioeconomic status:** All  
- **Geography:** Statewide

**Age categories:**  
- Elementary  
- Junior high  
- High school

**Region categories:**  
- St. Paul  
- Minneapolis  
- Metro Area  
- Greater Minnesota

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**Outreach to Particular Group:** No

**Outreach Group(s):** Not applicable

**Eligibility Criteria:** Open to all students officially registered at a participating regionally accredited school.

**Barriers to Participation:** There is a school fee, but no fee per student. No transportation is required.

**Number of Participants in 2009:** Not available
Organization: Minnesota Planetarium Society  
Type: Nonprofit

Contact Information:  
Sally Brummel  
Education Outreach Coordinator  
300 Nicollet Mall, Room 270  
Minneapolis, MN 55401  
Telephone: 952-847-8212  
Email: sally.brummel@mplanetarium.org  
Program website: http://www.mplanetarium.org

Mission: To inspire, inform, and educate children, families, educators, and all Minnesotans and our visitors about our planet, our universe, and the many benefits of scientific thinking, technological advancement, and exploration.

Offers STEM Programs/Services for 4th-12th Grade Students: Yes

Program Name: ExploraDome Immersive Learning Experience

Description: The ExploraDome is a portable, immersive learning environment where students experience "hands-on, minds-on" learning. Our programs feature age-appropriate lessons delivered underneath a 25-foot diameter dome.

Goals: Not available

Areas: Science (Earth and Space)

Primary Population Served:  
Age: Grades PreK-14  
Gender: Both  
Race: All  
Socioeconomic status: All  
Geography: Twin Cities and Greater Minnesota

Age categories:  
Elementary  
Junior high  
High school

Region categories:  
St. Paul  
Minneapolis  
Metro Area  
Greater Minnesota

Outreach to Particular Group: No

Outreach Group(s): Not applicable

Eligibility Criteria: Open to public.

Barriers to Participation: Many schools/groups cannot afford the cost of our program without corporate and foundation grants.

Number of Participants in 2009: 23,322
Organization: Minnesota Science Olympiad

Contact Information:
Brandi Hansmeyer
Director, B Division
Kenwood Trail Middle School
19455 Kenwood Trail
Lakeville, MN 55044

Telephone: 952-232-3999
Email: bnhansmeyer@isd194.k12.mn.us
Program website: Not available

Mission: Science Olympiad is a national nonprofit organization dedicated to improving the quality of K-12 science education; increasing male, female, and minority interest in science; creating a technologically literate workforce; and providing recognition for outstanding achievement by both students and teachers. These goals are achieved by participating in Science Olympiad tournaments and non-competitive events, incorporating Science Olympiad into classroom curriculum, and attending teacher training institutes.

Offers STEM Programs/Services for 4th-12th Grade Students: Yes

Program Name: Minnesota Science Olympiad

Description: Science Olympiad regional and state tournaments.

Goals: To bring science to life, to show how science works, to emphasize problem solving aspects of science and the understanding of science concepts. To develop teamwork and cooperative learning strategies among students. To make science education more exciting so more students will enroll in science courses and engage in other science activities like science reading, fairs, meetings, and field trips. To promote high levels of achievement and a commitment to excellence, to demonstrate that American students can perform at levels that surpass expectations of even practicing scientists and engineers. To attract more students—particularly females and minorities—to professional and technical careers in science, technology, and science teaching.

Areas: Science (Life, Earth, and Physical sciences)
Technology (Designing and operating robots, cars. Each year brings slightly new topics in technology.)
Engineering (Designing robots, cars, towers, bridges, aircraft, and rockets. Each year brings slightly new topics in engineering.)

Primary Population Served:
Age: Grades 6-9, B division; Grades 9-12, C division
Gender: Both
Race: All
Socioeconomic status: All
Geography: Statewide, though centered in the Twin Cities

Age categories:
Elementary
Junior high
High school
Region categories:
St. Paul
Minneapolis
Metro Area
Greater Minnesota

Outreach to Particular Group: Yes

Outreach Group(s): Urban schools, outstate schools.

Eligibility Criteria: Students must register as part of a team. Team members must all be students from the same school/homeschool association. Teams must register through the state organization and pay the registration fee (currently $125 for the 1st team; +$75 more for each.

Barriers to Participation: Each team is responsible for arranging transportation to all tournaments/workshops, etc. B division teams are limited to a maximum of five 9th graders; C division teams are limited to a maximum of seven seniors. Each team may have only 15 competitors, but may have an unlimited number of alternate competitors (as substitute competitors).

Number of Participants in 2009: 27 middle school teams (B division); 60 high school teams (C division)
### Organization: Minnesota Zoo

### Type: Education institution
Other government

#### Contact Information:
Grant Spickelmier  
Assistant Director of Education  
13000 Zoo Blvd.  
Apple Valley, MN 55124  
  
Telephone: 952-431-9226  
Email: grant.spickelmier@state.mn.us  
Program website: Not available

#### Mission: To connect people, animals, and the natural world.

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

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### Program Name: Wildlife Conservation Club

**Description:** This program for students in 8-12th grade introduces them to a wide variety of wildlife conservation and science careers through hands-on explorations and fieldtrips.

**Goals:** To expose students to careers and issues connected to wildlife conservation. To raise awareness about both local and global wildlife conservation and to encourage students to take practical steps to help wildlife and wild places in their backyard and around the world.

**Areas:** Science (Conservation biology, Environmental science)  
Technology (Camera traps, radio telemetry equipment, GIS software)

#### Primary Population Served:
- **Age:** Grades 8-12  
- **Gender:** Not available  
- **Race:** Not available  
- **Socioeconomic status:** Not available  
- **Geography:** Not available

- **Age categories:**  
  - Junior high  
  - High school

- **Region categories:**  
  - St. Paul  
  - Minneapolis  
  - Metro Area

#### Outreach to Particular Group: No

**Outreach Group(s):** Not applicable

**Eligibility Criteria:** Students must apply through the submission of two essays to demonstrate their interest in pursuing wildlife biology or conservation work as a future career.

**Barriers to Participation:** This program has a fairly hefty fee attached to it ($400), but we do have a couple of scholarships available. Transportation is a major issue for students of lower economic means as we are not easily accessible by public transportation. The essays may also be a barrier to students with some learning disabilities.

**Number of Participants in 2009:** 12
Organization: Minnesota Zoo

Type: Education institution
Nonprofit
Other government

Contact Information:
Jennifer Schultz
Mentor Program Coordinator
13000 Zoo Boulevard
Apple Valley, MN 55124

Telephone: 952-431-9453
Email: jennifer.schultz@state.mn.us
Program website: Not available

Mission: To connect people, animals, and the natural world.

Offers STEM Programs/Services for 4th-12th Grade Students: Yes

Program Name: Zoo Investigators

Description: The Zoo Investigators program is an out-of-school enrichment program designed to introduce 4th – 8th grade low-income and minority youth to important scientific concepts concerning animals and wildlife biology. It provides students with opportunities to explore real world environmental issues, and uses the natural appeal of animals to excite students about the possibilities of science and science careers.

Goals:
1. Show an increased concern for wildlife and environmental issues.
2. Show an enhanced attitude toward science and science careers.
3. Demonstrate increased knowledge about wildlife biology and ecology.
4. Demonstrate increased leadership skills.
5. Increase their involvement in outside (non-school) activities connected to animals or environmental science.
6. Take more upper-level science courses (AP, etc.) in high school.
7. Increased self-efficacy in students in connection to science and science-based careers.

Areas: Science (Life science)

Primary Population Served:
Age: Grades 4-8
Gender: Both
Race: Students of color (primarily Latino, Asian American, African American)
Socioeconomic status: Low-income
Geography: Minneapolis and St. Paul

Age categories: Elementary
Junior high
Region categories: St. Paul
Minneapolis
Metro Area

Outreach to Particular Group: Yes

Outreach Group(s): Work with student in two schools: Andersen United Community School in Minneapolis and Farnsworth Aerospace Program (5-8).

Eligibility Criteria: Must attend partner schools.

Barriers to Participation: Must attend partner schools.

Number of Participants in 2009: 69
Organization: MN Academy of Science

Type: Education institution
Nonprofit

Contact Information:
Celia Waldock
Executive Director
8700 West 36th St., Suite 114W, P.O. Box 25
St. Louis Park, MN 55426

Telephone: 952-545-6789
Email: ed@mnmas.org
Program website: http://www.mnmas.org

Mission: Our mission is to recognize, promote, and influence excellence in science. Our values are 1) to be inclusive--programs are open to all qualified participants, 2) to promote excellence, 3) to be fair and ethical, and 4) to provide leadership in the scientific community.

Offers STEM Programs/Services for 4th-12th Grade Students: Yes

Program Name: Minnesota Academy of Science State Science & Engineering Fair (MSSEF)

Description: The Academy works with the State Science Fairs in the nine regions of Minnesota. From 2,500 participants, who have come from 25,000 students statewide, about 450 are selected to present their projects at the Minnesota Academy of Science State Fair, which is held in the Twin Cities each year. At the fair, more than 100 organizations and businesses present awards to students with outstanding projects and research papers. Many student award winners receive expense-paid trips to compete at the International Science and Engineering Fair (ISEF).

Goals: A. Students will develop or enhance their ability to apply the scientific method to examine problems in the area of science, technology, engineering, and math. B. Students will focus on research that investigates relevant real-world issues. C. Students will communicate their technical writing through public presentation of their work. D. Students will learn to integrate many core academic and skill-building activities into one project, including language arts, graphic arts, math, statistics, logic, and ethics. E. Students will gain real world experience by learning from professional scientists during the review process. F. Students will have access to and create college and career opportunities based on their research efforts.

Areas:
Science
Technology
Engineering
Math
Other (Behavioral sciences)

Primary Population Served:
Age: Grades 7-12
Gender: Both
Race: All
Socioeconomic status: All
Geography: All of Minnesota

Age categories:
Junior high
High school
Region categories:
St. Paul
Minneapolis
Metro Area
Greater Minnesota

Outreach to Particular Group: No

Outreach Group(s): Not applicable

Eligibility Criteria: Must compete at the regional level and be chosen as a winner to attend state science fair.

Barriers to Participation: Fee required.

Number of Participants in 2009: 465
## Organization: MN Academy of Science

**Type:** Education institution  
**Nonprofit**

**Contact Information:**  
Celia Waldock  
Executive Director  
8700 West 36th St., Suite 114W, P.O. Box 25  
St. Louis Park, MN 55426  
Telephone: 952-545-6789  
Email: ed@mnmas.org  
Program website: [http://www.mnmas.org](http://www.mnmas.org)

**Mission:** Our mission is to recognize, promote, and influence excellence in science. Our values are 1) to be inclusive—programs are open to all qualified participants, 2) to promote excellence, 3) to be fair and ethical, and 4) to provide leadership in the scientific community.

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

### Program Name: Junior Science and Humanities Symposium (High school paper presentation)

**Description:** At this Symposium, high school students from Minnesota and the Dakotas present the results of their scientific research in a formal presentation to over 250 students, teachers, and judges. Students visit government, industry, and university facilities to talk about work and career opportunities. Workshops help students prepare and present research. The top research paper presenters receive an expense-paid trip to the National Junior Science and Humanities Symposium.

**Goals:**  
A. Students will develop or enhance their ability to apply the scientific method to examine problems in the area of science, technology, engineering, and math.  
B. Students will focus on research that investigates relevant real-world issues.  
C. Students will communicate their technical writing through public presentation of their work.  
D. Students will learn to integrate many core academic and skill-building activities into one project, including language arts, graphic arts, math, statistics, logic, and ethics.  
E. Students will gain real world experience by learning from professional scientists during the review process.  
F. Students will have access to and create college and career opportunities based on their research efforts.

**Areas:**  
Science  
Technology  
Engineering  
Math  
Other (Behavioral sciences)

**Primary Population Served:**  
Age: Grades 9-12  
Gender: Both  
Race: All  
Socioeconomic status: All  
Geography: Minnesota, North Dakota, South Dakota

**Age categories:**  
Junior high  
High school

**Region categories:**  
St. Paul  
Minneapolis  
Metro Area  
Greater Minnesota

**Outreach to Particular Group:** No

**Outreach Group(s):** Not applicable

**Eligibility Criteria:** Must compete and win at a regional fair or apply through open competition on-line.

**Barriers to Participation:** Fee required.

**Number of Participants in 2009:** 65
Organization: MN Academy of Science

Type: Education institution
Nonprofit

Contact Information:
Celia Waldock
Executive Director
8700 West 36th St., Suite 114W, P.O. Box 25
St. Louis Park, MN 55426

Telephone: 952-545-6789
Email: ed@mnmas.org
Program website: http://www.mnmas.org

Mission: Our mission is to recognize, promote, and influence excellence in science. Our values are 1) to be inclusive—programs are open to all qualified participants, 2) to promote excellence, 3) to be fair and ethical, and 4) to provide leadership in the scientific community.

Offers STEM Programs/Services for 4th-12th Grade Students: Yes

Program Name: Science Bowl

Description: Five-person teams from high schools and middle schools in Minnesota compete in a College Quiz Bowl format. The questions for this event are from all fields of science and math. The winning teams receive an expense-paid trip to compete at the National Science Bowl sponsored by the U.S. Department of Energy. In 2008, the Academy added the quiz bowl for middle school students funded by Ecolab.

Goals: A. Students will have their interest in science and math enhanced. B. Students will be encouraged to achieve educational excellence in the sciences through extensive preparation. C. Students’ decisions to pursue a college degree or career in science or math will be positively influenced. D. Students will build interpersonal skills and relationships with team members. E. Students will develop leadership and team membership skills. F. Students will have opportunities for interaction with scientists. G. Students’ ethical standards of conduct will be enhanced.

Areas: Science
Math

Primary Population Served:
Age: Grades 6-12
Gender: Both
Race: All
Socioeconomic status: All
Geography: All of Minnesota

Age categories:
Elementary
Junior high
High school
Region categories:
St. Paul
Minneapolis
Metro Area
Greater Minnesota

Outreach to Particular Group: No

Outreach Group(s): Not applicable

Eligibility Criteria: Must put together a school or group (e.g., Girl Scouts) team.

Barriers to Participation: Fee required.

Number of Participants in 2009: 275
**Organization:** MN Society of Professional Engineers/MN MATHCOUNTS  
**Type:** Nonprofit

**Contact Information:**  
Katie Jamieson  
Director of Member Services/MN State MATHCOUNTS Coordinator  
20 E. Thompson Ave. #206  
St. Paul, MN 55118  
Telephone: 651-457-2346  
Email: kjamieson@mnspe.org  
Program website: [http://www.mathcountsmn.org](http://www.mathcountsmn.org)

**Mission:** MATHCOUNTS is a math enrichment, coaching, and competition program aimed at middle school students. The program stimulates student interest by making math achievement as challenging, exciting, and prestigious as school sports.

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

**Program Name:** MN MATHCOUNTS

**Description:** MATHCOUNTS is an enrichment, coaching, and competition program that promotes middle school and junior high mathematics. Volunteer members of the Minnesota Society of Professional Engineers (MSPE) coordinate the program in Minnesota. It is one of the oldest and most successful education partnerships, involving volunteers, educators, industry sponsors, and students. In Minnesota, MATHCOUNTS has been reaching out to students and teachers since 1983.

**Goals:** Encourage Minnesota’s middle school students to stick with math and consider math and engineering-related careers.

**Areas:** Engineering

**Primary Population Served:**  
- Age: Grades 6-8  
- Gender: Both  
- Race: All  
- Socioeconomic status: All  
- Geography: All of Minnesota

**Age categories:**  
- Elementary  
- Junior high

**Region categories:**  
- St. Paul  
- Minneapolis  
- Metro Area  
- Greater Minnesota

**Outreach to Particular Group:** No

**Outreach Group(s):** Not applicable

**Eligibility Criteria:** All Minnesota students currently in grades 6-8 or the equivalent if home schooled.

**Barriers to Participation:** None.

**Number of Participants in 2009:** 1,000
<table>
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<tr>
<th>Organization: National Center for STEM Elementary Education, St. Catherine University</th>
<th>Type: Education institution</th>
</tr>
</thead>
</table>

**Contact Information:**  
Dr. Tony Murphy  
Associate Professor, Executive Director, National Center for STEM Elementary Education  
2004 Randolph Avenue  
St. Paul, MN 55105  
Telephone: 651-690-8877  
Email: apmurphy@stkate.edu  
Program website: Not available

**Mission:** To assist teachers in becoming competent, confident, and comfortable teaching STEM at the elementary level.

**Offers STEM Programs/Services for 4th-12th Grade Students:** No

Program description not applicable
**Organization:** NCED, University of Minnesota  
**Type:** Education institution

**Contact Information:**  
Bonnie Jean McKay  
Telephone: 612-624-4363  
Email: Not available  
Program website:  
http://www.safl.umn.edu/aboutus/toursafl.html

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

<table>
<thead>
<tr>
<th>Program Name: Tours of St. Anthony Falls Lab/Outdoor Stream Lab</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description:</strong> A tour will include a brief history of the building and its physical setting and an introduction to some of our ever-changing engineering models, such as dams, river banks, bridges, and flume experiments in which we study how the processes of erosion, transport, and deposition shape the Earth’s surface.</td>
</tr>
<tr>
<td><strong>Goals:</strong> Not available</td>
</tr>
<tr>
<td><strong>Areas:</strong> Engineering</td>
</tr>
<tr>
<td><strong>Primary Population Served:</strong></td>
</tr>
</tbody>
</table>
| Age: Ages 18 and up  
Gender: Not available  
Race: Not available  
Socioeconomic status: Not available  
Geography: Not available |
| **Region categories:** |
| St. Paul  
Minneapolis  
Metro Area |
| **Outreach to Particular Group:** Adults |
| **Outreach Group(s):** Not applicable |
| **Eligibility Criteria:** Must be over 18. |
| **Barriers to Participation:** Must provide own transportation. |
| **Number of Participants in 2009:** 150 |
**Program Name:** gidaa STEM Programs

**Description:** Fond du Lac Tribal and Community College and NCED offer gidakiimanaaniwigamig (“Our Earth Lodge” in Anishinaabe) summer camps and year-round after-school programming for 6th through 8th grade students. Camps are held during the summer months and include a mix of lab science and field science.

**Goals:** To introduce students to the scientific method and Native American culture.

**Areas:** Science, Engineering

**Primary Population Served:**
- **Age:** Grades 6-8
- **Gender:** Not available
- **Race:** Native American
- **Socioeconomic status:** Not available
- **Geography:** Not available

<table>
<thead>
<tr>
<th>Age categories:</th>
<th>Region categories:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary</td>
<td>Greater Minnesota</td>
</tr>
<tr>
<td>Junior high</td>
<td></td>
</tr>
</tbody>
</table>

**Outreach to Particular Group:** Yes

**Outreach Group(s):** Fond du Lac Tribal Community

**Eligibility Criteria:** 6th-8th graders

**Barriers to Participation:** None

**Number of Participants in 2009:** 100
Organization: NCED, University of Minnesota  
Type: Education institution  

Contact Information:  
Karen Campbell  
Telephone: Not available  
Email: kmc@umn.edu  
Program website: http://www.nced.umn.edu/  

Mission: The National Center for Earth-surface Dynamics, an NSF Science and Technology Center, is a partnership of research and educational institutions, government agencies, and industry that pursues its goal of predictive Earth-surface science by integrating physical, biological, and social sciences to understand how landscapes and ecosystems evolve together. The Center was developed to build our predictive ability, and therefore our scientific understanding, of the near-surface Earth environment. We aim to transform Earth management and restoration.

Offers STEM Programs/Services for 4th-12th Grade Students: Yes

Program Name: Earth Science Teacher/Researchers Exploring Active Modeling (E-STREAM)  

Description: Pre-service and in-service teachers join NCED research teams to work on specific research projects. Educators become integral members of the research teams, participating at the level of an undergraduate intern. Teams of pre-service and in-service teachers and NCED graduate students create classroom-ready activities which are tested in the classrooms of the participating educators and other local schools. The activities are evaluated, collected, and then broadly disseminated through NCED and Science Museum of Minnesota school outreach programs.

Goals: Not available

Areas: Science  
Engineering

Primary Population Served:  
Age: Teachers, Grades 6-12  
Gender: Not available  
Race: Not available  
Socioeconomic status: Not available  
Geography: Not available  

Age categories: Teachers  
Region categories: St. Paul  
Minneapolis  
Metro Area

Outreach to Particular Group: Teachers  

Outreach Group(s): Not applicable  

Eligibility Criteria: By application.

Barriers to Participation: Not applicable

Number of Participants in 2009: Not available
**Organization:** Normandale Community College  
**Type:** Education institution  
Nonprofit

**Mission:** 2-year post-secondary education institution.

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

### Contact Information:

<table>
<thead>
<tr>
<th>Name</th>
<th>Title/Department</th>
<th>Phone Numbers</th>
<th>Email Addresses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tina Wade (primary)</td>
<td>Dean of Natural Sciences, Mathematics and Education</td>
<td>952-487-7294 (Tina); 952-487-7441 (Nancy)</td>
<td><a href="mailto:Tina.Wade@normandale.edu">Tina.Wade@normandale.edu</a>; <a href="mailto:Nancy.Louwagie@normandale.edu">Nancy.Louwagie@normandale.edu</a></td>
</tr>
<tr>
<td>Nancy Louwagie</td>
<td>Adjunct Instructor in Nanotechnology Department</td>
<td>9700 France Ave S. Bloomington, MN 55431</td>
<td></td>
</tr>
</tbody>
</table>

### Program Name: STEM Outreach Programs at Normandale

**Description:** STEM Outreach at Normandale has been funded by federal and state grants as well as private corporation donations. Program offerings have been designed to satisfy objectives stated within proposals submitted for grant and award considerations. Nine total STEM Outreach events have been offered at Normandale between July 2008 and July 2010. STEM Outreach activities have included: 5 one-day STEM workshops for students in grades 5-8; 1 one-day STEM workshop for English as a Second Language learners in grades 2-5; 1 one-day Women in Engineering and Technology workshop for females in grades 9-12; 1 five-day Automation workshop for minority students in grades 10-12 participating in Normandale’s TRIO program; and 1 four-day Technology and Engineering Careers for Her (TECH) Camp for students in grades 6-8. Four of the 9 events have been for girls only.

**Goals:**
1. Encourage elementary and secondary aged students to pursue and continue studies in STEM areas.
2. Educate elementary and secondary aged students about career opportunities in STEM fields.
3. Offer elementary and secondary aged students opportunities to experience STEM topics through fun, "hands-on" activities.
4. Encourage underrepresented populations in STEM (specifically girls and minorities) to consider STEM careers.
5. Encourage pursuit of higher education studies by minority populations.

**Areas:**
- Science (Electromagnetics, Energy, Simple Machines)
- Technology (Automation, Wind turbines, Solar cars, Bridges, Filtration Systems)
- Engineering (Design process, Career opportunities, LEAN Manufacturing, Device Testing, Industry Speakers)
- Math (Mathematics preparation for engineering)

**Primary Population Served:**
- Age: Grades 2-12 (6 of the 9 events have been for grades 5-8.)  
  Age categories: Elementary  
  Junior high  
  High school
- Gender: Both (4 of the 9 events have been girls-only.)
- Race: 2 of the 9 events were minority events (African American, Hispanic, 1st-generation American).
- Socioeconomic status: 2 of the 9 events were attended by students from lower-income family units.
- Geography: Primarily Southwest metro but also greater Twin Cities

**Outreach to Particular Group:** Yes

**Outreach Group(s):** 4 of the 9 events have been girls-only; 2 of the 9 events were minority focused (African American, Hispanic, 1st-generation American).

**Eligibility Criteria:** All of the programs were initially defined with partnering public school districts; program offering was extended to greater community to fill spots.

**Barriers to Participation:** Must attend a partner school. Must provide transportation to and from Normandale campus with exceptions of transportation arrangements for participants from partner schools.

**Number of Participants in 2009:** 183
**Organization:** Oak View Middle School  
**Type:** Education institution

<table>
<thead>
<tr>
<th><strong>Contact Information:</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Paul R. Keeney</td>
<td>Telephone: 763-506-5692</td>
</tr>
<tr>
<td>Technology Education Instructor</td>
<td>Email: <a href="mailto:paul.keeney@anoka.k12.mn.us">paul.keeney@anoka.k12.mn.us</a></td>
</tr>
<tr>
<td>15400 Hanson Blvd.</td>
<td>Program website: Not available</td>
</tr>
<tr>
<td>Andover, MN 55304</td>
<td></td>
</tr>
</tbody>
</table>

**Mission:** School

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

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**Program Name: 7th Grade Tech-Ed Course**

**Description:** Required class for all 7th-grade students. Students will apply engineering, technology, math, science, and other interdisciplinary skills as they design and produce a variety of products. This "engineering for middle schoolers" course includes measuring, design, CADD, hands-on wood manufacturing, and technology-focused computer-based learning modules.

**Goals:** To provide students with the opportunity to engage in a variety of technical areas through real-world and hands-on application/practice/enrichment, while supporting the district/state standards in education through the integration of science, engineering, math, and reading.

**Areas:** Science (Hands-on experiments and activities to support science concepts)  
Technology (Focus on the human-made world and how students use information to produce things)  
Engineering (Problem-solving as a method of introduction, exploration of engineering and design concepts and principles)  
Math (Integration of math skills and concepts such as measuring, calculations, and problem-solving)

**Primary Population Served:**
- **Age:** Grade 7
- **Gender:** 50% Male, 50% Female
- **Race:** All students
- **Socioeconomic status:** All students
- **Geography:** Northwest Twin Cities suburbs

**Age categories:**  
- Junior high

**Region categories:**
- Metro Area

**Outreach to Particular Group:** No

**Outreach Group(s):** Not applicable

**Eligibility Criteria:** All school students.

**Barriers to Participation:** Required for all students.

**Number of Participants in 2009:** 400
**Organization:** Oak View Middle School  
**Type:** Education institution

**Contact Information:**  
Paul R. Keeney  
Technology Education Instructor  
15400 Hanson Blvd.  
Andover, MN 55304  
Telephone: 763-506-5692  
Email: paul.keeney@anoka.k12.mn.us  
Program website: Not available

**Mission:** School

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

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**Program Name:** 8th Grade Design & Manufacturing Elective

**Description:** Optional course for students to further their understanding of technology and engineering. Students will produce more advanced woodworking projects by utilizing new machines that they did not use in 7th grade. They will also produce an electronics project, 3D CADD drawings, robotics engineering and programming, and technology research as part of their classroom activities and projects.

**Goals:** To provide students with the opportunity to engage in a variety of technical areas through real-world and hands-on application/practice/enrichment, while supporting the district/state standards in education through the integration of science, engineering, math, and reading.

**Areas:**  
- Science  
- Technology  
- Engineering  
- Math  
- Other (Same as 7th-grade course emphasis, but more in-depth and focused)

**Primary Population Served:**  
**Age:** Grade 8  
**Gender:** 65% Male, 35% Female  
**Race:** Varies  
**Socioeconomic status:** Not available  
**Geography:** Northwest Twin Cities suburbs

**Age categories:**  
- Junior high  
**Region categories:**  
- Metro Area

**Outreach to Particular Group:** Not available

**Outreach Group(s):** Not available

**Eligibility Criteria:** 8th grade elective.

**Barriers to Participation:** Limited enrollment due to class/lab space at this school building.

**Number of Participants in 2009:** 260
<table>
<thead>
<tr>
<th>Organization: Oak View Middle School</th>
<th>Type: Education institution</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Contact Information:</strong></td>
<td></td>
</tr>
<tr>
<td>Paul R. Keeney</td>
<td>Telephone: 763-506-5692</td>
</tr>
<tr>
<td>Technology Education Instructor</td>
<td>Email: <a href="mailto:paul.keeney@anoka.k12.mn.us">paul.keeney@anoka.k12.mn.us</a></td>
</tr>
<tr>
<td>15400 Hanson Blvd.</td>
<td>Program website: Not available</td>
</tr>
<tr>
<td>Andover, MN 55304</td>
<td></td>
</tr>
<tr>
<td><strong>Mission:</strong> School</td>
<td></td>
</tr>
<tr>
<td><strong>Offers STEM Programs/Services for 4th-12th Grade Students:</strong> Yes</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Program Name:</strong> After-School Enrichment Programs: SuperMileage Vehicle Team &amp; FIRST LEGO League robotics</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description:</strong> SuperMileage: Students design, build, and test a lightweight vehicle to get the highest fuel economy rating with a gasoline engine. FIRST LEGO League and A-H Robotics Challenge: Teams of students design and program a robot made out of LEGO materials to navigate an obstacle course, and are judged by professionals on how they created and programmed their robot.</td>
</tr>
<tr>
<td><strong>Goals:</strong> Additional enrichment activities not possible during the school day.</td>
</tr>
</tbody>
</table>
| **Areas:** Science (Integration)  
Technology (Integration)  
Engineering (Hands-on activities)  
Math (Integration) |
| **Primary Population Served:**  |
| Age: Grades 6-8  
Gender: 60% Male, 40% Female  
Race: All  
Socioeconomic status: All  
Geography: Northwest Twin Cities suburbs |

| **Age categories:**  |
| Elementary  
Junior high |

| **Region categories:**  |
| Metro Area  
Northwest Twin Cities suburbs |

| **Outreach to Particular Group:** Yes |
| **Outreach Group(s):** Open to all students from Oak View. |
| **Eligibility Criteria:** Open to all Oak View Middle School students. |
| **Barriers to Participation:** Cost to students is sometimes a deterrent. |
| **Number of Participants in 2009:** 35 |
### Organization: PACER Center

**Type:** Education institution  
Nonprofit

**Contact Information:**  
Meghan Kunz  
Coordinator, Simon Technology Center  
Assistive Technology Specialist  
8161 Normandale Blvd.  
Bloomington, MN 55437  
Telephone: 952-838-9000  
Email: stc@pacer.org  
Program website: Not available

**Mission:** The mission of PACER Center (Parent Advocacy Coalition for Educational Rights) is to expand opportunities and enhance the quality of life of children and young adults with disabilities and their families, based on the concept of parents helping parents.

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

#### Program Name: EXploring Interests in Technology and Engineering, EX.I.T.E. Camp

**Description:** EX.I.T.E. Camp helps girls with disabilities explore, discover, create and challenge themselves to investigate the world around them through science. Local technology companies and mentors with disabilities expose girls to possibilities in science, technology, engineering, and math career fields through hands-on exploration and engaging activities.

**Goals:** EX.I.T.E. works to increase participants’ levels of self-confidence and self-esteem. Camp activities are hands-on and engaging; program volunteers with disabilities show girls that they too can succeed in STEM areas.

**Areas:**  
Science  
Technology  
Engineering  
Math

**Primary Population Served:**  
Age: Grades 6-9  
Gender: Female  
Race: All  
Socioeconomic status: All  
Geography: All of Minnesota

| Age categories: | Elementary  
| Junior high |
| Region categories: | St. Paul  
| Minneapolis  
| Metro Area  
| Greater Minnesota |

**Outreach to Particular Group:** Yes

**Outreach Group(s):** Students with disabilities.

**Eligibility Criteria:** Applications to the camp open in January and are available for all to apply. Girls applying must be entering 6th-9th grades the fall after the summer camp and have a disability.

**Barriers to Participation:** Girls must provide their own transportation to and from camp each day and bring a lunch. Camp is free to attend.

**Number of Participants in 2009:** 30
Organization: PACER Center

Type: Education institution
Nonprofit

Contact Information:
Meghan Kunz
Coordinator, Simon Technology Center
Assistive Technology Specialist
8161 Normandale Blvd.
Bloomington, MN 55437

Telephone: 952-838-9000
Email: stc@pacer.org
Program website: Not available

Mission: The mission of PACER Center (Parent Advocacy Coalition for Educational Rights) is to expand opportunities and enhance the quality of life of children and young adults with disabilities and their families, based on the concept of parents helping parents.

Offers STEM Programs/Services for 4th-12th Grade Students: Yes

Program Name: Technology for Girls Workshop Series

Description: The Technology for Girls workshop series works to keep the spirit and excitement surrounding STEM alive during the school year. Girls with disabilities are invited to explore the wonderful world of science in a fun, non-competitive, supportive environment. Girls are encouraged to roll up their sleeves as they prepare to explore science and technology during hands-on, experiment-based workshops.

Goals: The Technology for Girls workshop series works to increase participants' levels of self-confidence and self-esteem. All activities are hands-on and engaging. Volunteers ensure that each child is successful and contributes to the hands-on activities. Technology for Girls workshops encourage participation and show girls what they are capable of in STEM areas.

Areas: Science
Engineering
Math

Primary Population Served:
Age: Middle school
Gender: Female
Race: All
Socioeconomic status: All
Geography: All of Minnesota

Age categories:
Junior high
Region categories:
St. Paul
Minneapolis
Metro Area
Greater Minnesota

Outreach to Particular Group: Yes

Outreach Group(s): Students with disabilities.

Eligibility Criteria: Registration for these events is open to the public. Girls applying must be in middle school and have a disability. Available for all to apply. All workshops are free to attend, registration is required.

Barriers to Participation: Girls must have their own transportation to and from workshops.

Number of Participants in 2009: 30
**Organization:** Physics Department, University of Minnesota  
**Type:** Education institution

**Contact Information:**  
Cindy Cattell  
Professor  
Telephone: Not available  
Email: cattell@fields.space.umn.edu  

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

### Program Name: PACES, science for minority parent/childpairs in community centers

**Description:** PACES is a program designed to promote science education in under-represented communities in a format where parents model learning for their children. This format will allow young children (PreK through 3rd grade) to see their own parent valuing an educational experience and finding that science is fun and exciting. Short courses (45-60 minutes) will be designed that will promote critical thinking for both the parent and the child in a non-threatening format. Can also contact Hopkins High School teacher Nancy Bresnahan at 952-451-2817.

**Goals:** The goal is to ensure that the parent and child will view themselves as confident co-learners of science. The emphasis would be on parents and children jointly making observations and generating questions. It is intended to be a format where parents would model the curiosity, focused involvement, and enjoyment of learning.

**Areas:** Science

**Primary Population Served:**  
- **Age:** Students Grades PreK-3, Parents  
- **Gender:** Not available  
- **Race:** Not available  
- **Socioeconomic status:** Not available  
- **Geography:** Not available

**Age categories:** Elementary  
**Region categories:** St. Paul  
Minneapolis  
Metro Area

**Outreach to Particular Group:** PreK - 3rd-grade families

**Outreach Group(s):** No

**Eligibility Criteria:** No

**Barriers to Participation:** None

**Number of Participants in 2009:** 500
<table>
<thead>
<tr>
<th>Organization: Physics Department, University of Minnesota</th>
<th>Type: Education institution</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Contact Information:</strong></td>
<td><strong>Telephone:</strong> Not available</td>
</tr>
<tr>
<td>Cindy Cattell</td>
<td><strong>Email:</strong> <a href="mailto:cattell@fields.space.umn.edu">cattell@fields.space.umn.edu</a></td>
</tr>
<tr>
<td>Professor</td>
<td><strong>Program website:</strong> <a href="http://www.physics.umn.edu/undergrad/phystec/">http://www.physics.umn.edu/undergrad/phystec/</a></td>
</tr>
</tbody>
</table>

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

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**Program Name:** PhysTec (Physics Teacher Education Coalition) Teacher-in-Residence

**Description:** PhysTec recruits undergraduates as sophomores to interest them in a career as a physics teacher. They apprentice in the department, then go on to a teacher licensure program. The teacher in residence is a one-year program in which a high school physics teacher spends a year in the department working in the PhysTec program connecting students with teaching and connecting the department with high schools. In addition the teacher helps to teach the Physics for Elementary School Teachers Course.

**Goals:** Not available

**Areas:** Science

**Primary Population Served:**

- **Age:** Pre-Teachers, Grades 9-12
- **Gender:** Not available
- **Race:** Not available
- **Socioeconomic status:** Not available
- **Geography:** Not available

**Age categories:**
- High school
- Teachers

**Region categories:**
- St. Paul
- Minneapolis
- Metro Area

**Outreach to Particular Group:** Must be a high school physics teacher or teacher in training at the U of M.

**Outreach Group(s):** Not applicable

**Eligibility Criteria:** Pre-teachers (physical science) grades 9-12.

**Barriers to Participation:** Not applicable

**Number of Participants in 2009:** 1
**Organization:** Physics Department, University of Minnesota  
**Type:** Education institution

**Contact Information:**  
Dan Cronin-Hennessy

**Telephone:** Not available  
**Email:** hennessy@physics.umn.edu

**Program website:**  
http://www.physics.umn.edu/outreach/quarknet/

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

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**Program Name:** Quarknet

**Description:** Workshops and meetings to have teachers introduce contemporary physics, runs through the academic year.

**Goals:** Not available

**Areas:** Science

**Primary Population Served:**
- **Age:** Teachers, Grades 9-12  
- **Gender:** Not available  
- **Race:** Not available  
- **Socioeconomic status:** Not available  
- **Geography:** Not available

<table>
<thead>
<tr>
<th>Age categories:</th>
<th>Region categories:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teachers</td>
<td>St. Paul</td>
</tr>
<tr>
<td></td>
<td>Minneapolis</td>
</tr>
<tr>
<td></td>
<td>Metro Area</td>
</tr>
</tbody>
</table>

**Outreach to Particular Group:** High school physics teachers.

**Outreach Group(s):** Not applicable

**Eligibility Criteria:** Not applicable

**Barriers to Participation:** Not applicable

**Number of Participants in 2009:** 16
**Organization:** Physics Department, University of Minnesota  
**Type:** Education institution

**Contact Information:**  
Nancy Bresnahan  
Telephone: Not available  
Email: bresnahan@physics.umn.edu  
Program website: http://www.physics.umn.edu/outreach/pforce/

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

**Program Name:** Physics Force science demonstration shows

**Description:** Physics Force, a group of wild and crazy physicists who use highly visual and entertaining stunts to teach the elements of their science.

**Goals:** The Physics Force is a very successful and entertaining outreach program of the College of Science and Engineering of the University of Minnesota developed to make science exciting and fun for students of all ages, from 5 to 105. The Force consists of high school teachers and professors from the University of Minnesota Physics Department.

**Areas:** Science

**Primary Population Served:**  
Age: Teachers, Students Grades K-12, General Public  
Gender: Not available  
Race: Not available  
Socioeconomic status: Not available  
Geography: Not available  
Age categories:  
Elementary  
Junior high  
High school  
Teachers  
Region categories:  
St. Paul  
Minneapolis  
Metro Area

**Outreach to Particular Group:** General public.

**Outreach Group(s):** Not applicable

**Eligibility Criteria:** Not applicable

**Barriers to Participation:** Must provide own transportation or attend with school.

**Number of Participants in 2009:** 36,000
Organization:  Physics Department, University of Minnesota

Contact Information:
Jim Kakalios
Professor

Type:  Education institution
Telephone: Not available
Email: Not available
Program website: http://www.physics.umn.edu/outreach/

Offers STEM Programs/Services for 4th-12th Grade Students: Yes

Program Name: Research Experience for Teachers

Description: The RET program affords teachers the experience of working with researchers on the frontiers of physics so that they can use this experience in their classroom. In addition, teachers in the program will participate in a seminar with the Physics Education research group to discuss issues directly applicable to teaching.

Goals:  Not available

Areas:  Science

Primary Population Served:  
Age:  Teachers, Grades 9-12
Gender:  Not available
Race:  Not available
Socioeconomic status:  Not available
Geography:  Not available

Goals:  Not available

Areas:  Science

Primary Population Served:  
Age:  Teachers, Grades 9-12
Gender:  Not available
Race:  Not available
Socioeconomic status:  Not available
Geography:  Not available

Outreach to Particular Group:  High school physics teachers.

Outreach Group(s):  Not applicable

Eligibility Criteria:  By application.

Barriers to Participation:  None

Number of Participants in 2009:  6
### Organization: Physics Department, University of Minnesota

### Type: Education institution

#### Contact Information:
Julie Murphy  
Telephone: Not available  
Email: jjmurphy@physics.umn.edu  

#### Offers STEM Programs/Services for 4th-12th Grade Students: Yes

<table>
<thead>
<tr>
<th>Program Name: Van Vleck lectures</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description:</strong> Public lectures on topics in contemporary physics.</td>
</tr>
<tr>
<td><strong>Goals:</strong> Not available</td>
</tr>
<tr>
<td><strong>Areas:</strong> Science</td>
</tr>
<tr>
<td><strong>Primary Population Served:</strong></td>
</tr>
<tr>
<td>Age: General audience</td>
</tr>
<tr>
<td>Gender: Not available</td>
</tr>
<tr>
<td>Race: Not available</td>
</tr>
<tr>
<td>Socioeconomic status: Not available</td>
</tr>
<tr>
<td>Geography: Not available</td>
</tr>
</tbody>
</table>

#### Outreach to Particular Group: Open to general public, free of charge.

#### Outreach Group(s): Not applicable

#### Eligibility Criteria: Not applicable

#### Barriers to Participation: Must provide own transportation.

#### Number of Participants in 2009: 600
Organization: Saint Paul Public Schools  
Type: Education institution

Contact Information:
Marty Davis  
PreK-12 Science Program Manager  
345 Plato Blvd.  
St. Paul, MN 55107

Telephone: 651-744-1313  
Email: Marshall.Davis@spps.org  
Program website: http://www.mnpltw.org/

Mission: PreK-12th grade education.

Offers STEM Programs/Services for 4th-12th Grade Students: Yes

Program Name: Project Lead The Way

Description: National engineering curriculum.


Areas: Engineering (Project Lead the Way, Gateway To Technology)

Primary Population Served:
- Age: Middle school and high school students
- Gender: Both
- Race: All
- Socioeconomic status: All
- Geography: St. Paul

Age categories: Junior high, High school
Region categories: St. Paul, Metro Area

Outreach to Particular Group: Yes

Outreach Group(s): Women, minorities, new immigrants, low socio-economic status, etc.

Eligibility Criteria: Open to public.

Barriers to Participation: Not for school and most extra-curricular programs, but transportation can be an issue.

Number of Participants in 2009: 38,000 (Figure inclusive of SPPS PreK-12 programming)
<table>
<thead>
<tr>
<th>Organization:</th>
<th>Saint Paul Public Schools</th>
<th>Type:</th>
<th>Education institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact Information:</td>
<td>Marty Davis</td>
<td>Telephone: 651-744-1313</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PreK-12 Science Program Manager</td>
<td>Email: <a href="mailto:Marshall.Davis@spps.org">Marshall.Davis@spps.org</a></td>
<td></td>
</tr>
<tr>
<td></td>
<td>St. Paul, MN 55107</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Mission:** PreK-12th grade education.

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

---

**Program Name:** Engineering is Elementary

**Description:** Curriculum for elementary students.


**Areas:** Engineering

**Primary Population Served:**
- Age: Elementary school students
- Gender: Both
- Race: All
- Socioeconomic status: All
- Geography: St. Paul

**Age categories:** Elementary

**Region categories:** St. Paul, Metro Area

**Outreach to Particular Group:** Yes

**Outreach Group(s):** Women, minorities, new immigrants, low socio-economic status, etc.

**Eligibility Criteria:** Open to public.

**Barriers to Participation:** Not for school and most extra-curricular programs, but transportation can be an issue.

**Number of Participants in 2009:** 38,000 (Figure inclusive of SPPS PreK-12 programming)
## Organization: Saint Paul Public Schools

**Type:** Education institution

### Contact Information:

- **Marty Davis**  
  PreK-12 Science Program Manager  
  345 Plato Blvd.  
  St. Paul, MN 55107  
  Telephone: 651-744-1313  
  Email: Marshall.Davis@spps.org  

### Mission:

PreK-12th grade education.

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

### Program Name: STEM-Related Career Pathways

**Description:** Recommended course electives in STEM career fields.

**Goals:** See website: [http://schooltofuture.spps.org/Career_Pathways.html](http://schooltofuture.spps.org/Career_Pathways.html).

**Areas:** Science  
  Technology  
  Engineering  
  Math

### Primary Population Served:

- **Age:** High school students  
  **Age categories:** High school  
- **Gender:** Both  
  **Region categories:** St. Paul  
- **Race:** All  
  **Socioeconomic status:** All  
  **Geography:** St. Paul  
  **Metro Area**

#### Outreach to Particular Group: Yes

**Outreach Group(s):** Women, minorities, new immigrants, low socio-economic status, etc.

**Eligibility Criteria:** Open to public.

**Barriers to Participation:** Not for school and most extra-curricular programs, but transportation can be an issue.

**Number of Participants in 2009:** 38,000 (Figure inclusive of SPPS PreK-12 programming)
**Organization:** Saint Paul Public Schools  
**Type:** Education institution

**Contact Information:**  
Marty Davis  
PreK-12 Science Program Manager  
345 Plato Blvd.  
St. Paul, MN 55107  
Telephone: 651-744-1313  
Email: Marshall.Davis@spps.org  

**Mission:** PreK-12th grade education.

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

**Program Name:** FIRST Lego League

**Description:** National engineering competition.

**Goals:** See website.

**Areas:** Engineering (Engineering/Robotics)

**Primary Population Served:**  
- **Age:** Elementary and middle school  
- **Gender:** Both  
- **Race:** All  
- **Socioeconomic status:** All  
- **Geography:** St. Paul

**Age categories:**  
- Elementary  
- Junior high

**Region categories:**  
- St. Paul  
- Metro Area

**Outreach to Particular Group:** Yes

**Outreach Group(s):** Women, minorities, new immigrants, low socio-economic status, etc.

**Eligibility Criteria:** Open to public.

**Barriers to Participation:** Registration cost, coaches, transportation.

**Number of Participants in 2009:** Not available
Organization: Saint Paul Public Schools  
Type: Education institution

Contact Information:  
Marty Davis  
PreK-12 Science Program Manager  
345 Plato Blvd.  
St. Paul, MN 55107  
Telephone: 651-744-1313  
Email: Marshall.Davis@spps.org  
Program website: Not available

Mission: PreK-12th grade education.

Offers STEM Programs/Services for 4th-12th Grade Students: Yes

Program Name: Science Fairs

Description: School-based programs some of which send projects to the regional fair.

Goals: Not available

Areas: Science

Primary Population Served:  
Age: Elementary, middle school, and high school students  
Gender: Both  
Race: All  
Socioeconomic status: All  
Geography: St. Paul  

Age categories: Elementary, Junior high, High school  
Region categories: St. Paul, Metro Area

Outreach to Particular Group: Yes

Outreach Group(s): Women, minorities, new immigrants, low socio-economic status, etc.

Eligibility Criteria: Open to public.

Barriers to Participation: Fair formats and participation is a school-based decision.

Number of Participants in 2009: Not available
<table>
<thead>
<tr>
<th>Organization:</th>
<th>Saint Paul Public Schools</th>
<th>Type:</th>
<th>Education institution</th>
</tr>
</thead>
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<tr>
<td>Contact Information:</td>
<td>Marty Davis</td>
<td>Telephone:</td>
<td>651-744-1313</td>
</tr>
<tr>
<td>PreK-12 Science Program Manager</td>
<td>Email:</td>
<td><a href="mailto:Marshall.Davis@spps.org">Marshall.Davis@spps.org</a></td>
<td>Program website:</td>
</tr>
<tr>
<td>345 Plato Blvd.</td>
<td>St. Paul, MN 55107</td>
<td></td>
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</tr>
</tbody>
</table>

**Mission:** PreK-12th grade education.

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

### Program Name: Science Olympiad

**Description:** National science competition.

**Goals:** Not available

**Areas:** Science

**Primary Population Served:**
- **Age:** High school students
- **Gender:** Both
- **Race:** All
- **Socioeconomic status:** All
- **Geography:** St. Paul

**Age categories:**
- High school

**Region categories:**
- St. Paul
- Metro Area

**Outreach to Particular Group:** Yes

**Outreach Group(s):** Women, minorities, new immigrants, low socio-economic status, etc.

**Eligibility Criteria:** Open to public.

**Barriers to Participation:** Coaches to support the teams, student’s time to participate.

**Number of Participants in 2009:** Not available
**Organization:** Saint Paul Public Schools  
**Type:** Education institution

### Contact Information:
Marty Davis  
PreK-12 Science Program Manager  
345 Plato Blvd.  
St. Paul, MN 55107

**Telephone:** 651-744-1313  
**Email:** Marshall.Davis@spps.org  
**Program website:** Not available

### Mission:
PreK-12th grade education.

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

### Program Name: Science and Environmental Clubs

**Description:** After-school club focused on science competitions and events as well as promoting STEM careers.

**Goals:** Not available

**Areas:** Science  
Other (STEM careers)

### Primary Population Served:

<table>
<thead>
<tr>
<th>Age</th>
<th>Gender</th>
<th>Race</th>
<th>Socioeconomic status</th>
<th>Geography</th>
</tr>
</thead>
<tbody>
<tr>
<td>Middle school and high school students</td>
<td>Both</td>
<td>All</td>
<td>All</td>
<td>St. Paul</td>
</tr>
</tbody>
</table>

**Age categories:**  
Junior high  
High school  

**Region categories:**  
St. Paul  
Metro Area

### Outreach to Particular Group:
Yes

**Outreach Group(s):** Women, minorities, new immigrants, low socio-economic status, etc.

**Eligibility Criteria:** Open to public.

**Barriers to Participation:** Most schools have a club, but not all.

**Number of Participants in 2009:** Not available
**Organization:** Saint Paul Public Schools  
**Type:** Education institution

**Contact Information:**  
Marty Davis  
PreK-12 Science Program Manager  
345 Plato Blvd.  
St. Paul, MN 55107  
Telephone: 651-744-1313  
Email: Marshall.Davis@spps.org  
Program website: Not available

**Mission:** PreK-12th grade education.

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

<table>
<thead>
<tr>
<th>Program Name: Eagles Summer Camp</th>
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</thead>
<tbody>
<tr>
<td><strong>Description:</strong> STEM summer camp.</td>
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<tr>
<td><strong>Goals:</strong> Not available</td>
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</table>
| **Areas:** Science  
Technology  
Engineering  
Math |

**Primary Population Served:**  
Age: Elementary and middle school  
Gender: Both  
Race: All  
Socioeconomic status: All  
Geography: St. Paul

| Age categories:  
Elementary  
Junior high |
| Region categories:  
St. Paul  
Metro Area |

**Outreach to Particular Group:** Yes

**Outreach Group(s):** Women, minorities, new immigrants, low socio-economic status, etc.

**Eligibility Criteria:** Open to public.

**Barriers to Participation:** Teachers to offer courses.

**Number of Participants in 2009:** 500
**Organization:** Saint Paul Public Schools  

**Type:** Education institution

**Contact Information:**
Marty Davis  
PreK-12 Science Program Manager  
345 Plato Blvd.  
St. Paul, MN 55107

**Telephone:** 651-744-1313  
**Email:** Marshall.Davis@spps.org  
**Program website:** [http://www.mnpltw.org/](http://www.mnpltw.org/)

**Mission:** PreK-12th grade education.

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

### Program Name: Project Lead The Way Summer Camp

**Description:** National engineering curriculum.

**Goals:** See website: [http://www.mnpltw.org/](http://www.mnpltw.org/).

**Areas:** Engineering (Project Lead the Way, Gateway To Technology)

**Primary Population Served:**
- **Age:** Elementary and middle school
- **Gender:** Both
- **Race:** All
- **Socioeconomic status:** All
- **Geography:** St. Paul

**Age categories:**
- Elementary
- Junior high

**Region categories:**
- St. Paul
- Metro Area

**Outreach to Particular Group:** Yes

**Outreach Group(s):** Women, minorities, new immigrants, low socio-economic status, etc.

**Eligibility Criteria:** Open to public.

**Barriers to Participation:** Funding.

**Number of Participants in 2009:** Not available
Organization: School of Mathematics Center for Educational Programs (MathCEP), University of Minnesota

Contact Information:
Scott Gilbert
Assistant Director
206 Church Street - 4 Vincent Hall
Minneapolis, MN 55455

Telephone: 612-625-2861
Email: mathcep@umn.edu
Program website: http://www.mathcep.umn.edu/

Mission: MathCEP is dedicated to educational outreach. Its mission is to develop and administer educational programs in mathematics for pre-college, undergraduate, and graduate students and for K-12 pre-service/in-service teachers.

Offers STEM Programs/Services for 4th-12th Grade Students: Yes

Program Name: Girls Excel in Math (GEM)

Description: GEM aims to establish and support a community of fourth through sixth grade Twin City girls who are interested in math.

Goals: Forming lasting friendships and a strong student-mentor bond with a teacher are important goals for the GEM program.

Areas: Math

Primary Population Served:

<table>
<thead>
<tr>
<th>Age</th>
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</tr>
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<tbody>
<tr>
<td>Gender</td>
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<td>Race</td>
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<td>Socioeconomic status</td>
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<tr>
<td>Geography</td>
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</tr>
</tbody>
</table>

Age categories:

Elementary

Region categories:

St. Paul

Minneapolis

Metro Area

Outreach to Particular Group: Yes

Outreach Group(s): Girls in at-risk schools, low socio-economic status, and high minority populations.

Eligibility Criteria: Must attend school with a partner teacher.

Barriers to Participation: Must attend school with a partner teacher.

Number of Participants in 2009: 288
**Organization:** School of Mathematics Center for Educational Programs (MathCEP), University of Minnesota  
**Type:** Education institution

**Contact Information:**  
Scott Gilbert  
Assistant Director  
206 Church Street - 4 Vincent Hall  
Minneapolis, MN 55455  
Telephone: 612-625-2861  
Email: mathcep@umn.edu  
Program website: [http://www.mathcep.umn.edu/](http://www.mathcep.umn.edu/)

**Mission:** MathCEP is dedicated to educational outreach. Its mission is to develop and administer educational programs in mathematics for pre-college, undergraduate, and graduate students and for K-12 pre-service/in-service teachers.

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

### Program Name: University of Minnesota Talented Youth Mathematics Program (UMTYMP)

**Description:** UMTYMP provides a challenging alternative for Minnesota’s talented mathematics students in grades 6-12. The highly accelerated courses are specially designed to provide these students with an intense academic experience that will stimulate their mathematical interest and abilities.

**Goals:** The program has two components. The two-year high school component covers four years of high school mathematical content areas (Algebra I/II, Geometry, Mathematical Analysis). The courses stress critical problem-solving skills and comprehension of important concepts. Each two-hour UMTYMP class covers the equivalent of about three weeks of regular high school mathematics content. Successful students achieve the high school grades 11-12 Algebra, Statistics, Trigonometry, and Geometry standards (MN Department of Education Academic Standards). The three-year calculus component allows students to complete up to 14 semester credits of honors level college calculus, covering single- and multi-variable calculus, differential equations, and linear algebra. Faculty members carefully develop, teach, and monitor the UMTYMP calculus curricula, syllabi, assignments, and examinations, and students receive University of Minnesota credit for the calculus courses.

**Areas:** Math (High School Curriculum and College Calculus)

**Primary Population Served:**

| Age: Grades 6-12 | Age categories:  
| Gender: Not available | Elementary  
| Race: Not available | Junior high  
| Socioeconomic status: Not available | High school  
| Geography: Twin Cities | Region categories:  

**Outreach to Particular Group:** No

**Outreach Group(s):** Not applicable

**Eligibility Criteria:** Students register to take the UMTYMP Algebra Qualifying Examination in March/April. Nearly 900 students test annually and approximately 150 are admitted to start. In 2010-11, UMTYMP enrolled over 450 students in 20 classes—11 high school level and 9 college level classes.

**Barriers to Participation:** Fee required, must provide own transportation.

**Number of Participants in 2009:** In 2008-09, UMTYMP enrolled nearly 400 students in 26 classes—9 high school level and 9 college level classes in the Twin Cities and 2 high school level and 1 college level in Rochester.
Organization: School of Mathematics Center for Educational Programs (MathCEP), University of Minnesota

Type: Education institution

Contact Information:
Scott Gilbert
Assistant Director
206 Church Street - 4 Vincent Hall
Minneapolis, MN 55455

Telephone: 612-625-2861
Email: mathcep@umn.edu
Program website: http://www.mathcep.umn.edu/

Mission: MathCEP is dedicated to educational outreach. Its mission is to develop and administer educational programs in mathematics for pre-college, undergraduate, and graduate students and for K-12 pre-service/in-service teachers.

Offers STEM Programs/Services for 4th-12th Grade Students: Yes

Program Name: MathCEP Saturday Enrichment (YES and PRIME)

Description: MathCEP offers enrichment programs during the school year that provide grade 5-7 students with opportunities to learn and enjoy mathematics.

Goals: The primary objective is to offer innovative activities focused on a variety of mathematics topics that take students further than a standard school curriculum. Each program encourages participants to explore mathematics and its scientific applications from different perspectives based on specific mathematics themes.

Areas: Math

Primary Population Served:
- Age: Grades 5-7
- Gender: Not available
- Race: Not available
- Socioeconomic status: Not available
- Geography: Twin Cities

Age categories: Elementary, Junior high
Region categories: St. Paul, Minneapolis, Metro Area

Outreach to Particular Group: No
Outreach Group(s): Not applicable
Eligibility Criteria: Open to the public.
Barriers to Participation: Fee required, must provide own transportation.

Number of Participants in 2009: 130
## Organization: Science Museum of Minnesota

**Type:** Education institution  
Museum  
Nonprofit

### Contact Information:

Keith Braafladt  
Director of Learning Technologies Center  
120 W. Kellogg Blvd.  
St. Paul, MN 55102

Telephone: 651-221-2536  
Email: keithb@smm.org  
Program website: [http://www.smm.org/ltc](http://www.smm.org/ltc)

### Mission:

Turn on the Science: realizing the potential of policymakers, educators, and individuals to achieve full civic and economic participation in the world.

### Offers STEM Programs/Services for 4th-12th Grade Students: Yes

## Program Name: Learning Technologies Center

### Description:

The Learning Technologies Center offers science, technology, engineering, and math programs that integrate art and hands-on experiences incorporating digital technologies for youth ages 3-13 including weekend classes, summer camps, preschool classes, homeschool programs, and family workshops. Most programs charge a fee; scholarships are available for low-income participants. We support tween and teen programming in local libraries incorporating digital media creation and computer programming.

### Goals:

The Learning Technologies Center supports learning through creative and meaningful applications of digital technologies. Classes and workshops allow learners to be creative designers, using technologies that include miniature computers, motors, sensors, animation, and game-making software, and digital media tools. LTC also develops web tools that help students and teachers reflect on their learning. In order to fulfill our mission, we are working on the following strategies: 1. Model uses of computer technologies that encourage rather than replace direct interaction with the physical world and other human beings. 2. Make in-depth learning opportunities available to young people who could benefit most from access to these environments. 3. Develop on- and off-line materials and experiences that spark young people's interest and enable each as individuals to make personal connections to science. 4. Partner with museum program developers and other inspired educators to determine if, when, and how new technologies can further their work. 5. Create and support forums for discussing and critically analyzing the uses of learning technologies.

### Areas:

- **Science** (Systems, Biology, Physics, Computer science taught in an engaging and interdisciplinary way)
- **Technology** (Robotics, Machine control, Electro-mechanical systems integration, Digital media—video and photographic—creation and manipulation, Computer programming)
- **Engineering** (LEGO, Mechanical, Electrical, and other building and engineering project-based programs)
- **Math** (Geometry and algebra through computer programming classes: Game design, Artificial life programming, Systems modeling)
- **Other** (Computer science, Interactive media development)

### Primary Population Served:

- **Age:** Ages 4-17 and adult programming  
- **Gender:** Both, with some girls-only programs offered  
- **Race:** All  
- **Socioeconomic status:** Fee-based with scholarships available  
- **Geography:** St. Paul with additional sites around the metro area

### Age categories:

- Elementary  
- Junior high  
- High school

### Region categories:

- St. Paul  
- Minneapolis  
- Metro Area

### Outreach to Particular Group: Yes

**Outreach Group(s):** Our programs have 9.6% student with special needs. We emphasize inclusive practices in our programs. We are especially successful with students with autism spectrum disorders.

### Eligibility Criteria: Open to public.

**Barriers to Participation:** Fee required for most onsite programs, some free programs offered through Hennepin County Libraries.

### Number of Participants in 2009:

2,000
Organization: Science Museum of Minnesota

Type: Education institution
Museum
Nonprofit

Contact Information:
Kit Wilhite
Director of Youth and Family Programs
120 W. Kellogg Blvd.
St. Paul, MN 55102

Telephone: (651) 221-4511
Email: kwilhite@smm.org
Program website: http://www.smm.org/

Mission: Turn on the Science: realizing the potential of policymakers, educators, and individuals to achieve full civic and economic participation in the world.

Offers STEM Programs/Services for 4th-12th Grade Students: Yes

Program Name: Youth and Family Programs

Description: Youth and Family Programs offer a wide range of science, technology, engineering, and math programs for youth ages 3-13 including weekend classes, summer camps, preschool classes, homeschool programs, family workshops, Scout badge workshops, and birthday parties. Most programs charge a fee; scholarships are available for low-income participants.

Goals: Programs combine science, art, drama, and literature in ways that encourage kids to actively discover and examine concepts for themselves. Our staff strives to inspire a life-long passion for learning and teaches kids creative problem solving skills, teamwork skills, persistence, and follow through. We also offer family classes that provide opportunities for adults and young people to learn together.

Areas: Science (Paleontology, Archaeology, Chemistry, Physics, Biology, Zoology, Forensic science taught in an engaging and interdisciplinary way)
Engineering (LEGO, Carpentry, and other building and engineering project-based programs)
Math (Preschool math and math enrichment classes and camps)

Primary Population Served:
Age: Ages 3-13
Gender: Both, with some girls-only programs offered
Race: All
Socioeconomic status: Fee-based with scholarships available
Geography: St. Paul with additional sites around the metro area in the summer

Outreach to Particular Group: Yes

Outreach Group(s): Our programs have 9.6% students with special needs. We emphasize inclusive practices in our programs. We are especially successful with students with autism spectrum disorders.

Eligibility Criteria: Open to public.

Barriers to Participation: Fee required for most programs.

Number of Participants in 2009: 11,000
**Organization:**  Science Museum of Minnesota  
**Type:**  Education institution  
Museum  
Nonprofit

**Contact Information:**  
Anika V. Ward  
Director, Kitty Andersen Youth Science Center  
120 West Kellogg Boulevard  
St. Paul, MN 55102  
Telephone: 651-265-9877  
Email: avward@smm.org  

**Mission:** Turn on the Science: realizing the potential of policymakers, educators, and individuals to achieve full civic and economic participation in the world.

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

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### Program Name: Kitty Andersen Youth Science Center

**Description:** The core purpose of the KAYSC is to empower youth to change our world through science! The KAYSC engages 100 youth yearly in grades 7-12 in out-of-school-time (OST) science programming afterschool, on Saturdays, and during the summer. Programs target students from communities underrepresented in STEM disciplines; 75% of participants are from low-income families, 60% are girls, and 90% are youth of color. Middle school youth start as service-learning volunteers in 7th grade and can progress to paid positions during high school, and as alumni interns after graduation from high school. Youth work in theme-based “teams,” and build competencies in youth leadership, career development, and science literacy that they in turn share with their communities. Youth on KAYSC teams develop community service-learning projects and lead hands-on STEM workshops/outreaches for younger youth (pre-K through 6th grades) in their communities. These workshops are developed in collaboration with other organizations that lead OST workshops at various venues throughout the Twin Cities.

**Goals:** Support girls and youth of color in becoming researchers, policy makers, educators, innovators, and leaders in science and technology fields, concurrent with a shift toward innovations that support community development and environmental justice.

**Areas:**  
Science (Biology, Environmental science)  
Technology (IT)  
Engineering (Mechanical)

**Primary Population Served:**  
Age: Grades 7-12  
Gender: Both, primarily girls  
Race: All, primarily youth of color  
Socioeconomic status: 75% of participants qualify for free and reduced lunch  
Geography: Twin Cities, primarily St. Paul  

**Age categories:**  
Junior high  
High school

**Region categories:**  
St. Paul  
Minneapolis  
Metro Area

**Outreach to Particular Group:** Yes

**Outreach Group(s):** Programs target communities underrepresented in science, technology, engineering, and mathematics (girls, youth of color, and low income).

**Eligibility Criteria:** Youth accepted through formal application and interview process. (Some programs limited to partner schools and organizations.)

**Barriers to Participation:** High school students must provide their own transportation (bus passes provided to students on an as-needed basis). Some KAYSC programs are located on-site at partner schools, where afterschool busing is provided. There are no fees or prerequisites required for youth participants.

**Number of Participants in 2009:** 120
**Organization:** SciMathMN  

**Type:** Nonprofit  

**Contact Information:**  
Sally Standiford  
Executive Director  
992 West Lake Blvd.  
Winona, MN 55987  

**Telephone:** 507-459-7588  
**Email:** Sally.n.standiford@gmail.com  
**Program website:** Not available  

**Mission:** Promote quality math, science, technology education and engineering programs for Minnesota students.  

**Offers STEM Programs/Services for 4th-12th Grade Students:** No  

Program description not applicable
<table>
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<th>Organization: Shakopee High School</th>
<th>Type: Education institution</th>
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<tr>
<td><strong>Contact Information:</strong></td>
<td></td>
</tr>
<tr>
<td>Anna Bonderson</td>
<td>Telephone: 952-496-5100</td>
</tr>
<tr>
<td>Mathematics Teacher</td>
<td>Email: <a href="mailto:abonders@shakopee.k12.mn.us">abonders@shakopee.k12.mn.us</a></td>
</tr>
<tr>
<td>Shakopee, MN 55379</td>
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</tr>
</tbody>
</table>

**Mission:** Senior high school.

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

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### Program Name: Project Lead The Way

**Description:** National engineering curriculum.

**Goals:** See website: [http://www.mnpltw.org/](http://www.mnpltw.org/).

**Areas:** Engineering

### Primary Population Served:

- **Age:** Grades 8-12
- **Gender:** Available to all students - primarily males
- **Race:** Available to all students - primarily white
- **Socioeconomic status:** Available to all students - primarily middle class
- **Geography:** Shakopee (outer suburb of Minneapolis)

- **Age categories:** Jr. high
- **Region categories:** Metro Area

### Outreach to Particular Group: No

### Outreach Group(s): Not applicable

**Eligibility Criteria:** None - sequenced classes.

**Barriers to Participation:** Social difficulties - lack of knowledge about the program.

**Number of Participants in 2009:** Not available
**Organization:** Society for Hispanic Professional Engineers, University of Minnesota  
**Type:** Education institution

**Contact Information:**  
Telephone: Not available  
Email: shpeumn@umn.edu  
Program website: [http://www.tc.umn.edu/~shpeumn/](http://www.tc.umn.edu/~shpeumn/)

**Mission:** To provide the right environment for the growth of its members into successful leaders. To encourage academic excellence. To actively engage the local Hispanic community though generating interest in engineering and science. To develop professional aptitude. To foster a sense of family.

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

**Program Name:** Community Outreach

**Description:** Visit the University/classroom visit.

**Goals:** Not available

**Areas:** Engineering

**Primary Population Served:**

<table>
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<th>Age:</th>
<th>Grades 9-12</th>
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</tr>
<tr>
<td>Race:</td>
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<td>Socioeconomic status:</td>
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<td>Geography:</td>
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</table>

**Age categories:**  
- Junior high  
- High school

**Region categories:**  
- St. Paul  
- Minneapolis  
- Metro Area

**Outreach to Particular Group:** No

**Outreach Group(s):** Not applicable

**Eligibility Criteria:** Not applicable

**Barriers to Participation:** Not applicable

**Number of Participants in 2009:** 60
**Organization:** Society for Women Engineers (SWE), University of Minnesota  
**Type:** Education institution

**Contact Information:**  
Not available  
Telephone: Not available  
Email: swe@umn.edu  
Program website: [http://www.tc.umn.edu/~swe](http://www.tc.umn.edu/~swe)

**Mission:** Stimulate women to achieve full potential in careers as engineers and leaders, expand the image of the engineering profession as a positive force in improving the quality of life, and demonstrate the value of diversity.

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

### Program Name: Check IT Out/Technically Speaking

**Description:** Visit the University.

**Goals:** Learn about the University of Minnesota’s College of Science and Engineering.

**Primary Population Served:**

- **Age:** Grades 9-12  
- **Gender:** Girls  
- **Race:** Not available  
- **Socioeconomic status:** Not available  
- **Geography:** Not available

- **Age categories:** Junior high  
- **Gender:** High school  
- **Race:** Region categories:
  - St. Paul
  - Minneapolis
  - Metro Area

**Outreach to Particular Group:** Yes

**Outreach Group(s):** High school girls.

**Eligibility Criteria:** By invitation.

**Barriers to Participation:** Must provide own transportation.

**Number of Participants in 2009:** 100
<table>
<thead>
<tr>
<th>Organization: Society for Women Engineers (SWE), University of Minnesota</th>
<th>Type: Education institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact Information:</td>
<td>Telephone: Not available</td>
</tr>
<tr>
<td>Not available</td>
<td>Email: <a href="mailto:swe@umn.edu">swe@umn.edu</a></td>
</tr>
<tr>
<td></td>
<td>Program website: <a href="http://www.tc.umn.edu/~swe">http://www.tc.umn.edu/~swe</a></td>
</tr>
</tbody>
</table>

**Mission:** Stimulate women to achieve full potential in careers as engineers and leaders, expand the image of the engineering profession as a positive force in improving the quality of life, and demonstrate the value of diversity.

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

**Program Name: The Sky is the Limit**

**Description:** Not available

**Goals:** Not available

**Primary Population Served:**
- **Age:** Not available
- **Gender:** Girls
- **Race:** Not available
- **Socioeconomic status:** Not available
- **Geography:** Not available
  - Region categories:
    - St. Paul
    - Minneapolis
    - Metro Area

**Outreach to Particular Group:** Not available

**Outreach Group(s):** Not available

**Eligibility Criteria:** Girl Scouts

**Barriers to Participation:** Not available

**Number of Participants in 2009:** 75
**Organization:** St. Cloud State University  
**Type:** Education institution

**Contact Information:**  
Annette S. Lee  
Professor of Astronomy & Physics  
314 Wick Science Building  
St. Cloud, MN 56301  
Telephone: 320-308-2013  
Email: aslee@stcloudstate.edu  
Program website: Not available

**Mission:** Education.

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

### Program Name: Daytime Planetarium Shows

**Description:** We offer free Planetarium shows for groups of 10 or more.

**Goals:** Educate and motivate students in astronomy, science, and math.

**Areas:** Science (Astronomy)

**Primary Population Served:**  
- **Age:** All ages  
- **Gender:** Both  
- **Race:** All  
- **Socioeconomic status:** Students  
- **Geography:** St. Cloud and surrounding area  

**Age categories:**  
- Elementary  
- Junior high  
- High school  

**Region categories:**  
- Greater Minnesota

**Outreach to Particular Group:** No

**Outreach Group(s):** Not applicable

**Eligibility Criteria:** Open to the public.

**Barriers to Participation:** The Planetarium is not located in an area with a large STEM population.

**Number of Participants in 2009:** Not available
### St. Cloud State University

**Type:** Education institution

**Contact Information:**

Annette S. Lee  
Professor of Astronomy & Physics  
314 Wick Science Building  
St. Cloud, MN 56301  
Telephone: 320-308-2013  
Email: aslee@stcloudstate.edu  
Program website: Not available

**Mission:** Education.

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

---

### Public Nights

**Description:** Evening Planetarium shows and observing with telescopes and the naked eye.

**Goals:** Educate and motivate the public about astronomy, science, and math.

**Areas:** Science (Astronomy)

**Primary Population Served:**

- **Age:** All  
- **Gender:** Both  
- **Race:** All  
- **Socioeconomic status:** Middle class  
- **Geography:** St. Cloud

**Age categories:**  
Elementary  
Junior high  
High school  
Region categories:  
Greater Minnesota

**Outreach to Particular Group:** No

**Outreach Group(s):** Not applicable

**Eligibility Criteria:** Open to public.

**Barriers to Participation:** In the evenings, must provide own transportation.

**Number of Participants in 2009:** 2,000
**Organization:** St. Cloud State University  
**Type:** Education institution

**Contact Information:**  
Annette S. Lee  
Professor of Astronomy & Physics  
314 Wick Science Building  
St. Cloud, MN 56301  
Telephone: 320-308-2013  
Email: aslee@stcloudstate.edu  
Program website: Not available

**Mission:** Education.

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

---

**Program Name: Native Skywatchers**

**Description:** Educating and motivating students/persons to learn about Native star knowledge, to combine science and culture.

**Goals:** Educating and motivating students/persons to learn about Native star knowledge, to combine science and culture.

**Areas:**  
Science (Astronomy)  
Other (Native culture)

**Primary Population Served:**  
Age: All  
Gender: Both  
Race: Native American  
Socioeconomic status: Varies  
Geography: Northern and Central Minnesota  
Age categories:  
Elementary  
Junior high  
High school  
Region categories:  
Greater Minnesota

**Outreach to Particular Group:** Yes

**Outreach Group(s):** Native American persons, especially youth.

**Eligibility Criteria:** None.

**Barriers to Participation:** Need better advertising, dependent on weather.

**Number of Participants in 2009:** 300
Program Name: STARBASE Minnesota

Description: STARS 1, 4th grade: Students see their future possibilities in STEM-related careers as they investigate the extreme potential of flight. Daily challenges excite the STARBASE students to develop and utilize their scientific inquiry skills as they formulate questions, test hypotheses, and conduct experiments related to air, motion, rocketry, heat, and navigation technology, and explore the design and function of air and space craft. Students then apply this knowledge as they design their own aircraft and rocket using Pro/Engineer, a computer animated design (CAD) software and later design and test their own prototypes. An essential part of the students’ scientific investigations and applied engineering are the math concepts used throughout the program, such as median, mode, range, measuring, and estimating. Throughout the program, students have the opportunity to learn about and explore STEM-related careers and how they can pursue those careers in their future.

STARS 2, 5th grade: Students develop and utilize their skills in science, mathematics, technology, and engineering as they attempt to answer the question, “How can we engineer robotic and human missions to Mars?” Students investigate the planetary conditions of Mars and identify the design and engineering needs of its rover missions and human Mars exploration missions. Students conduct scientific experiments integrating math, technology, and engineering to learn more about Newton’s Laws of Motion, robotics, the atmospheres of Earth and Mars, air pressure, and the vacuum of space. They learn about range, units of measurement, estimating, and coordinate graphing, as well as explore technology-based designs and functions. Students experience the work of real-life scientists and engineers as they use Pro/Engineer engineering design software and other robotics software to build, program, and test Mars rovers. Students put their scientific and mathematical skills into practice using technology and experiences with “real world” applications.

Goals: Impact on Youth: Increased academic knowledge, skills, and interest of inner-city youth in science, technology, engineering, and mathematics for improved academic and future success. Impact on Schools: Improved capacity of Minneapolis and Saint Paul schools to meet the academic and future needs of youth by providing expertise, resources, and programming beyond their capabilities. Impact on the Community: Strengthened socio-economic health and vitality of our communities by helping to prepare the next generation of productive citizens with the skills they need in order to gain the high-skilled, high-paying jobs of this new century.

Areas: Science (Primarily physical sciences associated with flight, and science process)
Technology (Integrated throughout entire curriculum)
Engineering (Design engineering and manufacturing)
Math (Age-appropriate)

Primary Population Served:
Age: Grades 4-5 during school year and Grades 4-6 during special summer programs
Gender: Balanced
Race: 82% children of color (school-year programs); over 1/3 ELL
Socioeconomic status: School year, primarily economically disadvantaged - 81% free/reduced lunch
Geography: Minneapolis and St. Paul, school year

Age categories: Elementary
Region categories: St. Paul

Metro Area
<table>
<thead>
<tr>
<th>Program Name: STARBASE Minnesota (continued)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outreach to Particular Group: Yes</td>
</tr>
<tr>
<td>Outreach Group(s): MPS and SPPS, public, and private in St. Paul and Minneapolis</td>
</tr>
<tr>
<td>Eligibility Criteria: Must attend partner school.</td>
</tr>
<tr>
<td>Barriers to Participation: No barriers. Free program. Schools provide transportation.</td>
</tr>
<tr>
<td>Number of Participants in 2009: 3,347</td>
</tr>
</tbody>
</table>
### Organization: STARBASE Minnesota

**Type:** Education institution  
- Military  
- Nonprofit

#### Contact Information:

Kim Van Wie  
Executive Director  
659 Mustang Avenue  
St. Paul, MN 55111  

Telephone: 612-713-2530  
Email: kvanwie@starbasemn.org  

#### Mission:
To increase the knowledge, skills, and interest of urban youth in science, technology, engineering, and math.

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

### Program Name: Helping to prepare future educators

**Description:** STARBASE provides field experiences for college students from the University of St. Thomas in the education program who will be future educators. They have the opportunity to observe and learn how to teach STEM as integrated, interdependent subjects in “real time” at STARBASE.

**Goals:** Help equip the next generation of educators—help prepare them and potentially influence how STEM is taught.

**Areas:**  
- Science  
- Technology  
- Engineering  
- Math  
- Other (Best practices, methods, and strategies)

**Primary Population Served:**  
- **Age:** College students  
- **Gender:** Both  
- **Race:** All  
- **Socioeconomic status:** All  
- **Geography:** Currently just with the University of St. Thomas, St. Paul

**Age categories:**  
- Teachers  
- Region categories:  
  - St. Paul  
  - Metro Area

**Outreach to Particular Group:** Yes

**Outreach Group(s):** College students (currently University of St. Thomas, St. Paul).

**Eligibility Criteria:** Partner university.

**Barriers to Participation:** None.

**Number of Participants in 2009:** (We had 7 participants in 2010.)
**Organization:** STARBASE Minnesota  
**Type:** Education institution  
Military  
Nonprofit  

**Contact Information:**  
Kim Van Wie  
Executive Director  
659 Mustang Avenue  
St. Paul, MN 55111  
Telephone: 612-713-2530  
Email: kvanwie@starbasemn.org  

**Mission:** To increase the knowledge, skills, and interest of urban youth in science, technology, engineering, and math.

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

### Program Name: Next Generation Summer Camp

**Description:** Children unlock the secrets of our next leap into space: Mars! STARBASE Minnesota takes children out of this world. For children entering grades 4, 5, or 6 in the fall, they join STARBASE on a mission — destination Mars!  
Premise: In the year 2035, one of these young people will set foot on the surface of the Red Planet. We begin that journey by mapping the surface of Mars, designing rockets and rovers needed for exploration, and planning and designing a future city on Mars. Girls and boys are part of our Next Generation of space explorers, who work in teams, creatively solve problems, conduct experiments, design on computers, and enjoy discovering talents and interest in science, math, technology, and engineering which maybe, they never knew they had. Four half-days.

**Goals:** Increase the knowledge, skills, and interest in STEM among a broader student audience than we serve during the school year. While serving these students, we also develop partnerships with STEM-related organizations and increase STARBASE Minnesota's visibility.

**Areas:** Science  
Technology  
Engineering  
Math

**Primary Population Served:**  
Age: Grades 4-6  
Gender: Both  
Race: All  
Socioeconomic status: All  
Geography: Must be children of employees of partner STEM corporations.

**Age categories:** Elementary  
**Region categories:** St. Paul  
Minneapolis  
Metro Area

**Outreach to Particular Group:** Yes

**Outreach Group(s):** Children of employees of partner STEM corporations.

**Eligibility Criteria:** Special invitation by STARBASE; accepted by the corporation.

**Barriers to Participation:** None.

**Number of Participants in 2009:** 630
### Organization: The Bakken

**Type:** Education institution
- Museum
- Nonprofit

#### Contact Information:
- Steven Walvig
- Director of Education
- 3537 Zenith Ave. S.
- Minneapolis, MN 55416-4623
- Telephone: 612-926-3878
- Email: info@thebakken.org
- Program website: [http://www.thebakken.org/schoolprograms.html](http://www.thebakken.org/schoolprograms.html)

#### Mission: The Bakken inspires a passion for science and its potential for social good by helping people explore the history and nature of electricity and magnetism.

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

### Program Name: Field Trips at The Bakken

#### Description: The Bakken Museum supports the teaching of electricity and magnetism with field trips that engage students in hands-on inquiry-based learning. The museum strives to ensure a fun and educational environment so all students feel at ease to explore science through investigation. These age-appropriate workshops incorporate historical perspectives and interactive discussions, and are designed to meet state and federal standards. Each student leaves with a project to take home so they can continue to experiment even after the field trip is over and share what they learned with their families.

**Goals:** To teach students that science and engineering are human endeavors, that throughout history, people all over the world have used science and engineering to learn about and seek to improve the natural world, and that they too are "people of science."

#### Areas:
- Science (Electricity, Magnetism, Electromagnetism, Bioelectricity)
- Technology (Batteries, Electrical generators, Biomedical devices)
- Engineering (Engineering design process)
- Other (History and nature of science and engineering)

#### Primary Population Served:
- Age: Grades 1-6
- Gender: Both
- Race: All
- Socioeconomic status: All
- Geography: Mainly the Twin Cities metro
- Age categories: Elementary
- Region categories: St. Paul, Minneapolis, Metro Area

#### Outreach to Particular Group: Yes

**Outreach Group(s):** Minneapolis and Saint Paul Public Schools

**Eligibility Criteria:** Open to the public.

**Barriers to Participation:** Transportation is always the biggest barrier for most of the underrepresented students we serve. To address this barrier, The Bakken provided over $14,468 in scholarships during the 2009-10 school year.

**Number of Participants in 2009:** 10,321
Organization: The Bakken

Type: Education institution
Museum
Nonprofit

Contact Information:
Steven Walvig
Director of Education
3537 Zenith Ave. S.
Minneapolis, MN 55416-4623

Telephone: 612-926-3878
Email: info@thebakken.org
Program website:
http://www.thebakken.org/schoolprograms.html

Mission: The Bakken inspires a passion for science and its potential for social good by helping people explore the history and nature of electricity and magnetism.

Offers STEM Programs/Services for 4th-12th Grade Students: Yes

Program Name: The Minneapolis School Partnership Program

Description: The Bakken/MPS School Partnership Program strives to support students, especially those from groups traditionally underrepresented (girls and students of color) and underserved (students of poverty) in science, in developing improved science skills, knowledge, attitudes, and behaviors through a combination of classroom experiences and teacher professional development.

Goals: To improve student science learning, including attitudes toward science, particularly for students from groups traditionally underrepresented or underserved in science – girls, students of color and students of poverty. For teachers we strive to help teachers improve their teaching in terms of application of science instructional best practices, using information on student learning to guide instruction, science knowledge and skills, and attitudes toward science.

Areas: Science
Engineering
Other (History and nature of science and engineering)

Primary Population Served:
Age: 4th grade classrooms in the Minneapolis Public Schools
Gender: Both
Race: All
Socioeconomic status: All
Geography: Minneapolis Public Schools students

Age categories: Elementary
teachers
Region categories: Minneapolis
Metro Area

Outreach to Particular Group: Yes

Outreach Group(s): Minneapolis Public Schools students

Eligibility Criteria: This program is only offered to Minneapolis Public Schools with 4th-grade classrooms.

Barriers to Participation: None. All MPS 4th-grade students were able to participate.

Number of Participants in 2009: 1,821 students in 62 classrooms at 23 MPS schools
Organization: The Bakken

Contact Information: Steven Walvig
Director of Education
3537 Zenith Ave. S.
Minneapolis, MN 55416-4623

Telephone: 612-926-3878
Email: info@thebakken.org
Program website: http://www.thebakken.org/schoolprograms.html

Mission: The Bakken inspires a passion for science and its potential for social good by helping people explore the history and nature of electricity and magnetism.

Offers STEM Programs/Services for 4th-12th Grade Students: Yes

Program Name: Green Energy Outreach (GEO) Program

Description: The Bakken’s Green Energy Outreach (GEO) Program consists of a science theater-based assembly program and a hands-on classroom workshop, designed to teach students about the science and engineering of energy generation, transmission, and conservation through hands-on activities and demonstrations.

Goals: Students will learn they can make a meaningful contribution to their community and the world by discovering they have power over their own energy needs and our combined energy future.

Areas: Science (Electricity and Energy generation, transmission, and conservation)
Technology (Ways to conserve electricity)
Engineering (Devices used to generate, transmit, and conserve electricity)
Other (History and nature of science and engineering)

Primary Population Served:
Age: Grades K-6
Gender: Both
Race: All
Socioeconomic status: All
Geography: Saint Paul Public Schools students
Age categories: Elementary
Region categories: St. Paul, Metro Area

Outreach to Particular Group: Yes

Outreach Group(s): Saint Paul Public Schools students

Eligibility Criteria: This program is free for all schools with a 4th-grade classroom.

Barriers to Participation: None. All SPPS schools with 4th-grade classrooms were able to participate.

Number of Participants in 2009: 11,650
**Organization:** The Raptor Center  
**Type:** Education institution  
Nonprofit

**Contact Information:**  
Gail Buhl  
Education Program Manager  
The Raptor Center at the University of Minnesota  
1920 Fitch Ave.  
St. Paul, MN 55108  
Telephone: 612-624-3261  
Email: gailbuhl@umn.edu  
Program website: [http://www.TheRaptorCenter.org](http://www.TheRaptorCenter.org)

**Mission:** To ensure the health of raptors and the world we share through teaching, research, and service.

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

### Program Name: Raptors of Minnesota

**Description:** A fun, interactive one-hour program showing live raptors from Minnesota.

**Goals:** Awareness of raptors and the role they play in the environment and how everything is connected.

**Areas:** Science (Biological sciences - habitat, ecosystem health, all things are connected, raptors as sentinels)

| Primary Population Served: |  
| --- | ---  
| Age: Grades 4-12 | Age categories:  
Elementary  
Junior high  
High school  
Region categories:  
St. Paul  
Minneapolis  
Metro Area  
Greater Minnesota  
| Gender: Both |  
| Race: All |  
| Socioeconomic status: All |  
| Geography: State of Minnesota but mostly the Twin Cities |  

**Outreach to Particular Group:** No

**Outreach Group(s):** Not applicable

**Eligibility Criteria:** We take our programs off-site but also have on-site programs. We are open to the public as well and give tours Tuesday through Sunday.

**Barriers to Participation:** If people come to us they provide the transportation. There is a fee required but we work with low-income groups to make it affordable or free if they come to us.

**Number of Participants in 2009:** 180,000
Organization: The Raptor Center
Type: Education institution Nonprofit

Contact Information:
Gail Buhl
Education Program Manager
The Raptor Center at the University of Minnesota
1920 Fitch Ave.
St. Paul, MN 55108

Telephone: 612-624-3261
Email: gailbuhl@umn.edu
Program website: http://www.TheRaptorCenter.org

Mission: To ensure the health of raptors and the world we share through teaching, research, and service.

Offers STEM Programs/Services for 4th-12th Grade Students: Yes

<table>
<thead>
<tr>
<th>Program Name: Our Feathered Friends</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description:</strong> Designed for young children, this program is a fun, interactive 30-45 minutes introducing children to birds and raptors in particular. We show live raptors in this program.</td>
</tr>
<tr>
<td><strong>Goals:</strong> Awareness of birds and raptors. What makes a bird a bird. Comparison between birds and mammals (or other animals).</td>
</tr>
<tr>
<td><strong>Areas:</strong> Science Other (Awareness)</td>
</tr>
<tr>
<td><strong>Primary Population Served:</strong></td>
</tr>
<tr>
<td>Age: Grades K-4</td>
</tr>
<tr>
<td>Gender: Both</td>
</tr>
<tr>
<td>Race: All</td>
</tr>
<tr>
<td>Socioeconomic status: All</td>
</tr>
<tr>
<td>Geography: On-site and Twin Cities mostly</td>
</tr>
</tbody>
</table>

Outreach to Particular Group: No

Outreach Group(s): Not applicable

Eligibility Criteria: Arranged by teacher, daycare, homeschool.

Barriers to Participation: There is a fee required. We do work with low-income groups to make it affordable/free.

Number of Participants in 2009: Not available
Organization: The Science Research Institute (SRI) Program

Type: Education institution

Contact Information:
Shellie Kieke, Ph.D. (Concordia University-St. Paul) or Joanna Klein, Ph.D. (Northwestern College)
Associate Professor of Biology, Co-Director of the Science Research Institute Program
Concordia University-St. Paul
275 N. Syndicate St.
St. Paul, MN 55104

Telephone: 651-641-8486
Email: kieke@csp.edu
Program website: http://www.csp.edu/Biology/SRI/SRI.html

Mission: The purpose of SRI is to foster skills in basic and applied scientific research in order to better prepare college and high school students for further education and/or careers in the sciences, contributing to the long-term need of local STEM (Science, Technology, Engineering, and Mathematics) industries by providing a skilled and diverse workforce. SRI seeks to provide local urban high school students, especially those underrepresented in science, with hands-on, research-based science education. The program is a collaboration between Concordia University and Northwestern College.

Offers STEM Programs/Services for 4th-12th Grade Students: Yes

Program Name: The Science Research Institute (SRI) Program

Description: The Science Research Institute brings together high school students, college student mentors, high school teachers, and college faculty interested in STEM fields. The program runs for 5 weeks in the summer (9 a.m. to 1 p.m.) to conduct a STEM research project, then participants meet monthly during the school year. High school participants have the opportunity to present their research at local high schools as well as at a special symposium in the fall. Student participants are paid a stipend upon successful completion of the program. Applicants can be found on the program website or by contacting Dr. Shellie Kieke (kieke@csp.edu) of Concordia University-St. Paul.

Goals: To encourage urban high school students of color to pursue STEM-related higher education and careers, and to expose student participants to college-level content knowledge and research skills.

Areas: Science (Biology, Chemistry, Environmental Science)
Math

Primary Population Served:
Age: Grades 9-12
Gender: Both
Race: Targets students of color.
Socioeconomic status: Targets low-income.
Geography: Twin Cities

Age categories:
High school

Region categories:
St. Paul
Minneapolis
Metro Area

Outreach to Particular Group: Yes

Outreach Group(s): Urban students of color

Eligibility Criteria: Open to the public; minimum GPA requirement of 2.5.

Barriers to Participation: Must provide transportation to Concordia University or Northwestern College. Students are paid a stipend for successful participation.

Number of Participants in 2009: 40
Organization: The Works

Type: Museum
Nonprofit

Contact Information:
Kris Best
Director of Development
5701 Normandale Road
Edina, MN 55424

Telephone: 952-848-4846
Email: kris@theworks.org
Program website: http://www.theworks.org

Mission: To inspire the next generation of innovators, engineers, and creative problem solvers through hands-on engineering activities.

Offers STEM Programs/Services for 4th-12th Grade Students: Yes

Program Name: The Works

Description: We offer workshops for groups, camps, homeschool programs, school evening events, school residencies, and family visits.

Goals: Inspire interest and appreciation for STEM, with an emphasis on engineering. Engineering is cool.

Areas: Engineering

Primary Population Served:
Age: Grades K-6
Gender: Not available
Race: Not available
Socioeconomic status: Not available
Geography: Not available

Age categories: Elementary
Teachers
Region categories: St. Paul
Minneapolis
Metro Area

Outreach to Particular Group: Yes

Outreach Group(s): We offer special programming for disadvantaged kids, those not generally exposed to STEM. We also offer programs for gifted students.

Eligibility Criteria: Open to the public.

Barriers to Participation: Not available

Number of Participants in 2009: 37,000
### Organization: TPT Twin Cities Public Television

**Type:** Education institution Nonprofit

**Contact Information:**
- Dr. Richard Hudson, Director of Science Production
  - Telephone: 651-229-1317
- Email: rhudson@tpt.org
- Program website: Not available

**Mission:** Enrich lives and strengthen our community through the power of media.

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

### Program Name: DragonflyTV

**Description:** National PBS TV series featuring "real kids doing real science."

**Goals:** Modeling authentic inquiry for children, parents, and educators in both formal and informal settings.

**Areas:** Science, Technology, Engineering, Math

**Primary Population Served:**
- Age: Grades 3-6
- Gender: Both
- Race: All
- Socioeconomic status: All
- Geography: National

**Age categories:** Elementary

**Region categories:** St. Paul, Minneapolis, Metro Area, Greater Minnesota

**Outreach to Particular Group:** Yes

**Outreach Group(s):** Afterschool programs, grade-school teachers.

**Eligibility Criteria:** Open to public.

**Barriers to Participation:** N/A.

**Number of Participants in 2009:** 10,000,000
<table>
<thead>
<tr>
<th>Organization: TPT Twin Cities Public Television</th>
<th>Type: Education institution Nonprofit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact Information:</td>
<td>Telephone: 651-229-1317</td>
</tr>
<tr>
<td>Dr. Richard Hudson</td>
<td>Email: <a href="mailto:rhudson@tpt.org">rhudson@tpt.org</a></td>
</tr>
<tr>
<td>Director of Science Production</td>
<td>Program website: Not available</td>
</tr>
<tr>
<td>172 E. 4th St.</td>
<td></td>
</tr>
<tr>
<td>St. Paul, MN 55101</td>
<td></td>
</tr>
<tr>
<td><strong>Mission:</strong> Enrich lives and strengthen our community through the power of media.</td>
<td></td>
</tr>
<tr>
<td><strong>Offers STEM Programs/Services for 4th-12th Grade Students:</strong> Yes</td>
<td></td>
</tr>
</tbody>
</table>

**Program Name:** SciGirls

**Description:** National TV series, website, outreach and education program.

**Goals:** Encourage girls’ interest and abilities in STEM.

**Areas:** Science
- Technology
- Engineering
- Math

**Primary Population Served:**
- **Age:** Grades 2-6
- **Gender:** Both
- **Race:** All
- **Socioeconomic status:** All
- **Geography:** National
- **Age categories:** Elementary
- **Region categories:** St. Paul
- Minneapolis
- Metro Area
- Greater Minnesota

**Outreach to Particular Group:** Yes

**Outreach Group(s):** Afterschool programs including museum educators, grade school teachers.

**Eligibility Criteria:** N/A.

**Barriers to Participation:** None.

**Number of Participants in 2009:** 5,000,000
**Organization:** TPT Twin Cities Public Television  
**Type:** Education institution  
Nonprofit

**Contact Information:**  
Dr. Richard Hudson  
Director of Science Production  
172 E. 4th St.  
St. Paul, MN 55101  
Telephone: 651-229-1317  
Email: rhudson@tpt.org  
Program website: Not available

**Mission:** Enrich lives and strengthen our community through the power of media.

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

---

**Program Name:** Make: Television

**Description:** TV series on applied technology.

**Goals:** To model creative uses of applied technology in a do-it-yourself format that supports engineering and technology education.

**Areas:** Technology  
Engineering

**Primary Population Served:**  
Age: Grades 5-12  
Gender: Both  
Race: All  
Socioeconomic status: All  
Geography: National

**Age categories:**  
Elementary  
Junior high  
High school

**Region categories:**  
St. Paul  
Minneapolis  
Metro Area  
Greater Minnesota

**Outreach to Particular Group:** No

**Outreach Group(s):** Not applicable

**Eligibility Criteria:** Open to public.

**Barriers to Participation:** None.

**Number of Participants in 2009:** 5,000,000
**Mission:** The Twin Cities Regional Science Fairs (TCRSF) exists solely for the betterment of youth in the Twin Cities area. Our mission is to provide opportunities for interaction with mentors, discussion of project goals, presentation of ideas, and project analysis for all youth in the Twin Cities area. We strongly support under-represented groups with financial assistance, mentor involvement, and project guidance. We strive to motivate, encourage, and support all efforts by a philosophy of "everyone who tries is a winner." Science fair is one of the very few academic cross-training activities available for students and is vital to help develop critical thinking and communication skills. (Three simultaneous fairs: Twin Cities, City of St. Paul, and Western Suburbs.)

**Goals:** This is a hands-on educational extracurricular program that encourages and educates our youth in science, technology, engineering, and mathematics. We need financial support, volunteers, as well as judges for the fair held annually in February. Doing a science project teaches and exercises cross-disciplinary skills, and for those students who participate annually, results in practiced, skilled, self-confident, and competitive young leaders who have career goals with the preparation, discipline, and drive to attain them. The educational purpose of doing a science fair project is that it is the one exercise that utilizes the skills of reading, writing formal papers, art and graphic design, typesetting, proof reading, spelling, grammar, mathematics, statistics, computer science, critical thinking, logic, ethics, scientific methodology, background library research skills, ability to teach oneself in a specialty field not taught in class, the power of self-discovery where the student learns something of his or her own research and ability, public speaking, the defense of one's own thoughts and conclusions in front of "the experts," and general project skills, such as researching alternatives, making a plan within the time and money budget, executing the plan, and evaluating the results. Each of these skills will be beneficial to an individual's future, no matter which field of study or career he or she chooses to pursue. Moreover, these same project skills are also needed for daily living, from the task of cleaning or redecorating a bedroom to the future goals of planning a family vacation, or adding a deck onto a house. The science fair project is a perfect opportunity for academic "cross training." We provide a venue for students to advance to state, multistate, national, and international levels of competition. Students are recognized for their achievements at our fairs through our awards program which is open to the public. Our awards list is available on our website. (A St. Paul Science Fair public school student earned a 1st Grand Award at ISEF: International Science and Engineering Fair held in San Jose, CA, in May 2010.)

**Areas:** Science (Science projects compete in any discipline - with exhibits &/or research papers.)
Technology (Technology projects may compete - with exhibits &/or research papers.)
Engineering (Engineering projects may compete - with exhibits &/or research papers.)
Math (Math projects may compete with exhibits &/or research papers.)
**Program Name:** Twin Cities Regional Science Fairs (continued)

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<th><strong>Primary Population Served:</strong></th>
<th><strong>Age categories:</strong></th>
</tr>
</thead>
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<td>Age: Grades 6-12</td>
<td>Elementary</td>
</tr>
<tr>
<td>Gender: Both</td>
<td>Junior high</td>
</tr>
<tr>
<td>Race: All</td>
<td>High school</td>
</tr>
<tr>
<td>Socioeconomic status: All</td>
<td>Region categories:</td>
</tr>
<tr>
<td>Geography: Four Minnesota counties: Ramsey, Hennepin, Dakota, and Washington</td>
<td>St. Paul</td>
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<tr>
<td></td>
<td>Minneapolis</td>
</tr>
<tr>
<td></td>
<td>Metro Area</td>
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**Outreach to Particular Group:** Yes

**Outreach Group(s):** Inner-city underprivileged.

**Eligibility Criteria:** Must be a student in grades 6-12 attending school (public, charter, private, home, other) with school district headquarters located in Ramsey, Hennepin, Dakota, or Washington counties of Minnesota. District headquarters of a home or private school is con

**Barriers to Participation:** We are working with students and with adults in industry, schools, teachers, parents, and other interested adults to find adults to encourage inner-city students (or others with need) to work on their projects, mentor them, and help as needed. Students of underrepresented groups often need more encouragement!

**Number of Participants in 2009:** In 2010: 514 student registrations and about 275 judges and volunteers. In 2009, 522 student registrations and about 300 judges and volunteers. This does not count all the teachers and mentors involved for either year.
<table>
<thead>
<tr>
<th>Organization: Unisys</th>
<th>Type: Business/industry</th>
</tr>
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</table>

**Contact Information:**

Glenn Toby  
Network Design Engineer  
3516 Noble Ave. N.  
Minneapolis, MN 55422

Telephone: 651-366-8332  
Email: glenn.toby@unisys.com

Program website: Not available

**Offers STEM Programs/Services for 4th-12th Grade Students:** No

Program description not applicable
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<th>Organization: University of Minnesota Alumni Society - College of Science &amp; Engineering</th>
<th>Type: Education institution</th>
</tr>
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<tbody>
<tr>
<td>Contact Information:</td>
<td>Telephone: 763-494-2574</td>
</tr>
<tr>
<td>Jerry Sosinske</td>
<td>Email: <a href="mailto:jerry@sosinske.com">jerry@sosinske.com</a></td>
</tr>
<tr>
<td>Chair - K-12 Outreach Committee</td>
<td>Program website: Not available</td>
</tr>
</tbody>
</table>

**Offers STEM Programs/Services for 4th-12th Grade Students:** No

Program description not applicable
### Organization:

University of Minnesota Extension, Center for Youth Development, Urban Youth Development Office

### Type:

- Education institution
- Nonprofit
- Other government

### Contact Information:

Urban Youth Development Office  
University of Minnesota Extension, Center for Youth Development  
90 Coffey Hall, 1420 Eckles Ave.  
St. Paul, MN 55108

Phone: 612-624-7626  
Email: urbanyd@umn.edu  
Program website: [http://www1.extension.umn.edu/youth/mn4-H/urban4-H/](http://www1.extension.umn.edu/youth/mn4-H/urban4-H/)

### Mission:

The Urban Youth Development Office is a part of University of Minnesota Extension's Center for Youth Development. The office works on behalf of young people living in Minneapolis, St. Paul, and the surrounding suburban communities to measurably improve their learning through youth-centered educational and engagement programs.

### Offers STEM Programs/Services for 4th-12th Grade Students:

Yes

### Program Name: UROC – Try Science 4-H Club

**Description:** Each week will highlight a different aspect of science. This program will use the IBM Try Science and 4-H Science, Engineering, and Technology (SET) curricula.

**Goals:** UROC - Try Science 4-H Club offers age-appropriate, hands-on learning via short- and long-term projects and activities focusing on science and leadership through how to use science skills and knowledge for projects in the community.

**Areas:**  

**Primary Population Served:**

- **Age:** Open to all youth in Grades K-13
- **Gender:** Both
- **Race:** African (Somali), African American, European (White)
- **Socioeconomic status:** 60% of youth are eligible for free or reduced lunch at day school.
- **Geography:** North Minneapolis and surrounding area

**Age categories:**

- Elementary
- Junior high
- High school

**Region categories:**

- Minneapolis
- Metro Area

**Outreach to Particular Group:** No

**Outreach Group(s):** Not applicable

**Eligibility Criteria:** Open to all ages and gender from 5-19 years old.

**Barriers to Participation:** Must provide own transportation.

**Number of Participants in 2009:** 10
<table>
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<tr>
<th>Organization:</th>
<th>University of Minnesota Extension, Center for Youth Development, Urban Youth Development Office</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type:</td>
<td>Education institution Nonprofit Other government</td>
</tr>
</tbody>
</table>

**Contact Information:**
Urban Youth Development Office
University of Minnesota Extension, Center for Youth Development
90 Coffey Hall, 1420 Eckles Ave.
St. Paul, MN 55108

Telephone: 612-624-7626
Email: urbanyd@umn.edu
Program website: Not available

**Mission:** The Urban Youth Development Office is a part of University of Minnesota Extension’s Center for Youth Development. The office works on behalf of young people living in Minneapolis, St. Paul, and the surrounding suburban communities to measurably improve their learning through youth-centered educational and engagement programs.

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

**Program Name:** Phyllis Wheatley Community Center 4-H Club

**Description:** The Phyllis Wheatley Active Chef club focuses on fitness and nutrition.

**Goals:** Phyllis Wheatley program offers age-appropriate, hands-on learning via short- and long-term projects and activities focusing on Science, Engineering, and Technology (SET), specifically nutrition through using skills to be in good fit and to have healthy eating lifestyle in the community.

**Areas:** Science (Fitness and Nutrition)

**Primary Population Served:**
- Age: Grades 4-8
- Gender: Both
- Race: African American
- Socioeconomic status: 100% of youth are eligible for free or reduced lunch at day school.
- Geography: North Minneapolis

**Age categories:**
- Elementary
- Junior high

**Region categories:**
- Minneapolis
- Metro Area

**Outreach to Particular Group:** No

**Outreach Group(s):** Not applicable

**Eligibility Criteria:** Open to all ages and gender from grades 4-8.

**Barriers to Participation:** Must provide own transportation for those youth who do not come to the community center.

**Number of Participants in 2009:** 10
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</tr>
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<td>Telephone: Not available</td>
</tr>
<tr>
<td></td>
<td>Email: Not available</td>
</tr>
<tr>
<td></td>
<td>Program website:</td>
</tr>
<tr>
<td></td>
<td><a href="http://www.geo.umn.edu/orgs/geology_club/UMGS/index.html">http://www.geo.umn.edu/orgs/geology_club/UMGS/index.html</a></td>
</tr>
</tbody>
</table>

**Offers STEM Programs/Services for 4th-12th Grade Students:** Yes

**Program Name:** Visits to Schools

**Description:** Classroom visits.

**Goals:** Introduce the field of geology.

**Areas:** Science

**Primary Population Served:**
- Age: Grades K-12
- Gender: Not available
- Race: Not available
- Socioeconomic status: Not available
- Geography: Not available

**Age categories:**
- Elementary
- Junior high
- High school

**Region categories:**
- St. Paul
- Minneapolis
- Metro Area

**Outreach to Particular Group:** No

**Outreach Group(s):** Not applicable

**Eligibility Criteria:** Not applicable

**Barriers to Participation:** Not applicable

**Number of Participants in 2009:** Not available
Organization: Youth Enrichment League

Type: Business/industry
Education institution

Contact Information:
Chet Gunhus
Director
P.O. Box 13
Carver, MN 55315

Telephone: 952-361-6882
Email: info@youthenrichmentleague.com
Program website: http://www.youthenrichmentleague.com

Offers STEM Programs/Services for 4th-12th Grade Students: Yes

Program Name: ROBOLAB NXT: Quest for the Lost Mayan Ruins

Description: ROBOLAB NXT: Quest for the Lost Mayan Ruins: For students entering 4th-8th grades. Ancient Mayan ruins are rumored to be near. The catch...humans can’t get close enough to excavate the site. Your mission is to build and program a robot to discover, explore, and excavate the ruins, then find a way to capture the artifacts safely. Only your robot can complete the mission. Build a different robot each day, program it to complete specific tasks and challenges and finish the mission. Sure to inspire any budding robotics engineer. We will be using Mindstorms: NXT programming and assemblies. See www.youthenrichmentleague.com for more details.

Goals: Teach students: basic robotics construction and programming, problem solving, teamwork.

Areas: Science (Understanding basic robotics)
Technology (Programming a robot to complete basic tasks)
Engineering (Understanding basic engineering concepts of simple machines and applying those to their robots)

Primary Population Served:
Age: Grades 4-8
Gender: Both
Race: All
Socioeconomic status: All
Geography: Suburbs

Age categories: Elementary
Junior high
Region categories: Metro Area

Outreach to Particular Group: No

Outreach Group(s): Not applicable

Eligibility Criteria: Not available

Barriers to Participation: Not available

Number of Participants in 2009: 60
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