

ISEF - International Science and Engineering Fair

Phoenix, AZ - May 7-13, 2016

Finalists

Twin Cities

1133T	Nathaniel R Farmer	Grade 11	Wearable Mask Fit Monitor
1128T	Max Ylitalo	Grade 12	Energy Production from Waste Reduction Phase III: Experimental Design Optimization of Surfactant Enhanced Waste Paper Hydrolysis
1122T	Claire E Wentzlaff	Grade 10	How Does Supplemental Carbon Dioxide Affect The Growth of Algae

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Finalists

Western Suburbs

1193W	Prashant Godishala, Brennan Clark	Grade 12	Predicting a cancerous outcome: Creating a test for assessing risk of human papilloma virus-associated oropharyngeal cancer
1069W	Jessica Weng	Grade 12	Can APOBEC3B gene be a therapeutic target for breast cancer?
1089W	Avni Jain	Grade 9	An eco-friendly approach for removal of toxic pentavalent arsenic from oryza sativa (rice)

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Finalists

St. Paul

1074S	Serena L Jing	Grade 11	Inexpensive, portable glucose monitor for diabetics via a crosslinked sensing fluid
1187S	Emilia F Topp-Johnson	Grade 10	Behind the Kernels III: An Evaluation of Fungal Endophytes of Maize and their Hypothesized Mitigation of Temperature Stress

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Alternates

Twin Cities

1st Alternate

1114T Gregory L Johnson Grade 10 Effectiveness of Limonene from Citrus Fruit as a Natural Alternative in Reducing Polystyrene

2nd Alternate

1100T Aadarsh S Padiyath Grade 12 The Bitter Truth! Investigation of the Mechanism of Action of Common Sweeteners on Gut Microbiota

3rd Alternate

1119T Jady A Smith Grade 10 How Changes In Acidity Affect The Survival Rates In An Invertebrate Population

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Alternates

Western Suburbs

1st Alternate

1144W Arun Kethar

Grade 12 Investigating the Effectiveness of Pricing Models for Consumer Goods in Generation Z

2nd Alternate

1076W Madeline C McCue, Evelyn G McChesney

Grade 12 Turning probiotics into antibiotics: Engineering a broad-spectrum antibacterial probiotic via inclusion of antimicrobial peptide-encoding DNA, year two

3rd Alternate

1060W Harini Kethar

Grade 11 Bioengineered RGS5 Induced Adenoviral Drug Delivery and Smooth Muscle Cell Differentiation to Suppress Cardiac Disease Vasoconstrictor Remodeling

ISEF - International Science and Engineering Fair

Phoenix, AZ - May 7-13, 2016

Alternates

St. Paul

1st Alternate

1082S Geeta Rajamani

Grade 11 Controlling Noxa Protein Expression by a Novel
Approach to Study its Function in Leukemic Cells

Sponsors Awards

Winners must be present at the awards ceremony & have photo taken at project with award or an alternate will receive the award

Platinum Level - Plaque

3M Sponsor Award Plaque and \$500

Winner

1082S	Geeta Rajamani	Grade 11	Controlling Noxa Protein Expression by a Novel Approach to Study its Function in Leukemic Cells
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Alternate

1080T	Felix Oh	Grade 11	Genetically Engineered Biological Drugs for Human Sarcoma
1089W	Avni Jain	Grade 9	An eco-friendly approach for removal of toxic pentavalent arsenic from oryza sativa (rice)

Sponsors Awards

Winners must be present at the awards ceremony & have photo taken at project with award or an alternate will receive the award

Gold Level - Plaque

**Ecolab Sponsor Award
Plaque and \$500**

Winner

1177W Rajiv S Dharnipragada Grade 11 Insect Immune Response to Fungal Pathogens

Alternate

1187S Emilia F Topp-Johnson Grade 10 Behind the Kernels III: An Evaluation of Fungal Endophytes of Maize and their Hypothesized Mitigation of Temperature Stress

1176T Alea B Branham Grade 10 Physiological requirements of algae for maximum growth.

Sponsors Awards

Winners must be present at the awards ceremony & have photo taken at project with award or an alternate will receive the award

Gold Level - Plaque

**City of St. Paul Youth Fund
Plaque**

Winner

1074S Serena L Jing

Grade 11 Inexpensive, portable glucose monitor for diabetics
via a crosslinked sensing fluid

Alternate

Sponsors Awards

Winners must be present at the awards ceremony & have photo taken at project with award or an alternate will receive the award

Silver Level - Plaque

Dow Water and Process Solutions Sponsor Award Plaque

Winner

1133T Nathaniel R Farmer Grade 11 Wearable Mask Fit Monitor

Alternate

1073W Meghana Iyer Grade 11 Bioengineering the Lung: Investigating the Effects
of a Lung Extracellular Matrix on the Growth and
Differentiation of Stem Cells into Definitive
Endoderm

1074S Serena L Jing Grade 11 Inexpensive, portable glucose monitor for diabetics
via a crosslinked sensing fluid

Sponsors Awards

Winners must be present at the awards ceremony & have photo taken at project with award or an alternate will receive the award

Silver Level - Plaque

Orbital ATK Sponsor Award Plaque

Winner

1082S	Geeta Rajamani	Grade 11	Controlling Noxa Protein Expression by a Novel Approach to Study its Function in Leukemic Cells
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Alternate

1080T	Felix Oh	Grade 11	Genetically Engineered Biological Drugs for Human Sarcoma
1069W	Jessica Weng	Grade 12	Can APOBEC3B gene be a therapeutic target for breast cancer?

Sponsors Awards

Winners must be present at the awards ceremony & have photo taken at project with award or an alternate will receive the award

Bronze Level - Plaque

Midway Party Rental Sponsor Award Plaque

Winner

7084T Milan E Jostes Grade 7 Moving Soft Grip Robot

Alternate

8118S Joseph J Westermeyer VI Grade 8 Which Type of Winglet Increases Lift the Most?
8101S Charles H Rogers Jr. Grade 8 Wind Energy

Sponsors Awards

Winners must be present at the awards ceremony & have photo taken at project with award or an alternate will receive the award

Bronze Level - Plaque

Mintahoe Catering and Events Sponsor Award Plaque

Winner

8112W Dylan Vincent, Derek Turner Grade 8 Antibacterial Properties of Colloidal Silver
III, Roberaa Ayana

Alternate

1153T Megan R Osterhaus Grade 10 Correlation Between Different Methods of
Mummification and Amount of Bacterial Growth/
Variation from Subject's Original Condition

1057S Nicholas W Berg, Akira Z Callahan Grade 11 Calorie Burning Efficiency

Sponsors Awards

Winners must be present at the awards ceremony & have photo taken at project with award or an alternate will receive the award

Contributing Level Ribbon

University of Minnesota Ribbon

Finalist

7066S	Everett J Ries	Grade 7	Arrow Material and Tip Shape vs. Speed and Penetration
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Alternate

7066S	Everett J Ries	Grade 7	Arrow Material and Tip Shape vs. Speed and Penetration
6029W	Kate Norman	Grade 6	Organic vs. Synthetic A Study of Fertilizers in Hydroponics

Sponsors Awards

Winners must be present at the awards ceremony & have photo taken at project with award or an alternate will receive the award

Contributing Level

Ribbon

Slatery Sales Group

Ribbon

Finalist

1122T Claire E Wentzlaff Grade 10 How Does Supplemental Carbon Dioxide Affect
The Growth of Algae

Alternate

7062W Ani Tonoyan Grade 7 The Effect of Seasons on the Bacteria levels in
Minnesota Ponds and Streams

1116T Kaylee M Martynow Grade 10 Polycyclic Aromatic Hydrocarbons and Their
Effects On Wetlands

Minnesota Academy of Science State Science and Engineering Fair

Projects selected to represent our region in state competition

1002T	Madeline C Drummer	Grade 10	Canine Voice Recognition
1003T	Dyanne S. Garibay	Grade 12	Neurological Effects of Nicotine, Caffeine, and MSG on Acheta Domesticus
1004T	Haley Jostes	Grade 9	What is Ophryocystis Elektroscirrha and how does it affect the monarch population?
1006S	Tessa B Newman-Heggie	Grade 11	Factors Affecting the Classical Conditioning of <i>Dugesia tigrina</i>
1010T	Daniel K Akah	Grade 10	Cognitive Processing of Words and Colors Among Adults and Children Using the Stroop Effect
1011T	Kennedy Anderson	Grade 10	Conditioning People to Perceive Music in the Absence of Music
1021T	Noelle M Hinrichs	Grade 12	Manipulating Memory Using Suggestion
1022T	Taylor R Horner	Grade 11	The Effects of Timed Versus Untimed Testing on Students Performance in Elementary Years
1025T	Makaela M Kallstrom	Grade 10	The Effects Talking and Texting Has on Reaction Time
1028W	Roman Kouznetsov, Sunag Udupa	Grade 12	Science: The Clash of Facts and Beliefs
1030T	Hayley S Ladwig	Grade 10	Preferences Vs. Placement
1033T	Kevin Lin	Grade 10	Investigating the Effect of Age in Identifying Emotions in Semantically Neutral Words
1039T	Emily M Reynolds	Grade 10	Auditory Versus Visual Feedback
1041T	Hannah Jo Schliemann	Grade 10	Texting While Driving: Distracting?
1047T	Percy Thomas, Vincent M Mwebi	Grade 11	The Effect of Vision on Proprioception
1050T	Anna M Warmka	Grade 10	Dog reaction to Different Visual Stimuli
1060W	Harini Kethar	Grade 11	Bioengineered RGS5 Induced Adenoviral Drug Delivery and Smooth Muscle Cell Differentiation to Suppress Cardiac Disease Vasoconstrictor Remodeling
1065T	Sophia A Olson	Grade 10	Effects of Ethyl Alcohol on Bacteria Growth
1068T	John S Toomire Jr.	Grade 10	The Effect of Mindfulness Meditation on Heart Rate
1069W	Jessica Weng	Grade 12	Can APOBEC3B gene be a therapeutic target for breast cancer?
1070T	Nicholas C Willmert	Grade 10	Changes in Blood Pressure When Given Caffeine and a Banana
1073W	Meghana Iyer	Grade 11	Bioengineering the Lung: Investigating the Effects of a Lung Extracellular Matrix on the Growth and Differentiation of Stem Cells into Definitive Endoderm
1074S	Serena L Jing	Grade 11	Inexpensive, portable glucose monitor for diabetics via a crosslinked sensing fluid

1076W	Madeline C McCue, Evelyn G McChesney	Grade 12	Turning probiotics into antibiotics: Engineering a broad-spectrum antibacterial probiotic via inclusion of antimicrobial peptide-encoding DNA, year two
1077W	Samuel J Rex, Genevieve C Weiler	Grade 11	Printing an organ: Developing a protocol to 3-D bioprint a gastro-esophageal junction
1078W	Gauri C Binoy	Grade 11	Regenerating the neuron through blastocyst complementation of PITX3 knockout brains for the treatment of neural degenerative diseases such as Parkinson's
1080T	Felix Oh	Grade 11	Genetically Engineered Biological Drugs for Human Sarcoma
1082S	Geeta Rajamani	Grade 11	Controlling Noxa Protein Expression by a Novel Approach to Study its Function in Leukemic Cells
1083T	Maedin Abegaz, Danielle L Thompson	Grade 12	The Use of Electrolysis to Create a Reverse Hydrolysis Reaction
1089W	Avni Jain	Grade 9	An eco-friendly approach for removal of toxic pentavalent arsenic from oryza sativa (rice)
1091T	Megan L Kortenhof	Grade 10	Flame Retardant Paint
1099W	Archana B Murali, Elena Berman	Grade 11	Window to the brain: Using retinal biomarkers to diagnose Alzheimer's disease
1100T	Aadarsh S Padiyath	Grade 12	The Bitter Truth! Investigation of the Mechanism of Action of Common Sweeteners on Gut Microbiota
1101T	Maria R Ambrose	Grade 10	The Effects of Density on the Evaporation Rate of Liquids
1106T	Alexander Dodd, Braxton Kukulka	Grade 11	The Effectiveness of Deicer and Antifreeze
1109T	Devin J Geegan	Grade 10	The Effects of Microwave Radiation on Phaseolus vulgaris
1110W	Alexander L Guzman, Cassidy Yueh	Grade 12	Can fish poop power aquaponics systems?
1113T	Cleo G Haugen, Sydney C Connor, Meade H Acers	Grade 9	Nitrate Levels Along The St. Croix River
1114T	Gregory L Johnson	Grade 10	Effectiveness of Limonene from Citrus Fruit as a Natural Alternative in Reducing Polystyrene
1119T	Jadyn A Smith	Grade 10	How Changes In Acidity Affect The Survival Rates In An Invertebrate Population
1122T	Claire E Wentzlaff	Grade 10	How Does Supplemental Carbon Dioxide Affect The Growth of Algae
1126W	Arush Jain	Grade 12	Energy Density and Commercial Viability Assessment of Solid Waste to Biofuel Generation using Pyrolysis
1128T	Max Ylitalo	Grade 12	Energy Production from Waste Reduction Phase III: Experimental Design Optimization of Surfactant Enhanced Waste Paper Hydrolysis
1133T	Nathaniel R Farmer	Grade 11	Wearable Mask Fit Monitor
1134T	Everett AJ Kroll	Grade 9	Improving Leonardo da Vinci's Armored Tank
1137T	Fiona W. Chow	Grade 10	All About Those Blades

1138W	Siddarth Eswarachari, Sarah Carlson	Grade 12	Cleaner Water: Investigating homogenisate chemotaxis receptors in <i>Pseudomonas putida</i> F1 for bioremediation of aromatic hydrocarbons, year two
1144W	Arun Kethar	Grade 12	Investigating the Effectiveness of Pricing Models for Consumer Goods in Generation Z
1147T	Nicholas M Schatz	Grade 10	A Novel Stylometric Solution to the Problem of Many Potential Authors
1149T	Emily N Carlson	Grade 12	Effects of short-term temperature abuse on the bacterial content of raw ground beef
1153T	Megan R Osterhaus	Grade 10	Correlation Between Different Methods of Mummification and Amount of Bacterial Growth/Variation from Subject's Original Condition
1159T	Maggie J Hennessy	Grade 10	Sound Transmission Through Various Materials
1165T	Katie M Lyon	Grade 10	Analysis of Effectivity of Wolf Tone Suppressors
1171S	Yusanat Tway	Grade 9	Angles of Serving
1172S	Ramona White	Grade 11	A Look into Immortality
1177W	Rajiv S Dharnipragada	Grade 11	Insect Immune Response to Fungal Pathogens
1180T	Abigail R Herzog, Ian M Johnson, Lucas M Senta	Grade 11	The Effects of Microwave Radiation on the Growth Patterns of Bean Plants
1184S	Liza M Strom	Grade 11	Sweet Germination
1186S	Katherine A Tennis	Grade 12	Unorganized Plants in the Unorganized Thunder Bay District
1187S	Emilia F Topp-Johnson	Grade 10	Behind the Kernels III: An Evaluation of Fungal Endophytes of Maize and their Hypothesized Mitigation of Temperature Stress
1189W	Ryan T Etwiler, Moira Southern	Grade 12	Programming a socially assistive humanoid NAO robot to deliver Down syndrome physical therapy
1191T	Akin Campbell	Grade 12	Collaboration Pals: Increasing opportunities for inter-generational relationships
1193W	Prashant Godishala, Brennan Clark	Grade 12	Predicting a cancerous outcome: Creating a test for assessing risk of human papilloma virus-associated oropharyngeal cancer
1194W	Carlos A Sanchez, Jiahao Liang	Grade 12	Real-time Human Breath Analysis: Designing an Ion Mobility-Mass Spectrometer for the Detection of Volatile Organic Compounds
6006T	Patrick C Gainor	Grade 6	Headphones vs. Parent: How much volume is needed to get a kid's attention
6010S	Will Hamilton	Grade 6	Swimming with Eggs: What type of liquid stains your teeth the most?
6012W	Max J Herro	Grade 6	Are fingerprints inherited
6015T	Logan R Olson	Grade 6	Keeping Warm
6020W	Michael D Gross	Grade 6	Iron Absorption
6026W	Maeve G Katics, Lulu M Skroch	Grade 6	The Effects of Two Different Fabric Softeners on Seed Germination
6029W	Kate Norman	Grade 6	Organic vs. Synthetic A Study of Fertilizers in Hydroponics
6032T	Rikhil L Seshadri	Grade 6	Suitable light sources for in-home photoelectric generation
6041S	Charlie Ostergren	Grade 6	Does Ski Wax Matter?

6042T	Vincent C Ramirez	Grade 6	Conductive Paste
6046W	Daniela Beatriz Amadeo-Muñiz	Grade 6	Music from Outer Space
6052W	Alex Remick	Grade 6	Comparing the Effectiveness of Infrared and Radio Frequencies
6053S	Max Rouillard-Horne	Grade 6	The Power of Attraction!
7014S	Nora A Thomey	Grade 7	The Feeling in Your Hands
7022S	Anindita Rajamani	Grade 7	Fast Food Assistant
7036S	Anna Schmidt, Lily Osmond	Grade 7	Apple Browning: A Study in Enzymatic Browning
7038T	Katherine G Warmka	Grade 7	Can Cooking Compromise the C?
7042W	Ilse K Fredrickson	Grade 7	Soil Erosion What Can Stop It Rock Grass or Nothing
7046S	Audrey A Percich	Grade 7	The Effect of pH on Capillary Action
7047S	Janey C Post	Grade 7	Minnesota: Land Of 10,000 Acidic Lakes
7051W	Braedon John Ziemer	Grade 7	Super Charged
7052T	Brandon Doan	Grade 7	The Power of Colors
7062W	Ani Tonoyan	Grade 7	The Effect of Seasons on the Bacteria levels in Minnesota Ponds and Streams
7064S	Anna M. Gaudio	Grade 7	Which type of material makes the strongest paper?
7066S	Everett J Ries	Grade 7	Arrow Material and Tip Shape vs. Speed and Penetration
7074S	Dan D Rueter	Grade 7	Is it Newtonian or Non-Newtonian?
7075W	Julia A Brouwer	Grade 7	Leafy Green Astronauts: How Space Radiation Affects Seed Germination and Plant Growth
7085S	John Walbran	Grade 7	Python vs. C
7086T	Grace Hoepfner	Grade 7	What Keeps A Rose Alive?
8003T	Sydney R Stone	Grade 8	Splash
8005S	Olivia D Ahrens	Grade 8	Is your dominant hand more affected by cold than your non-dominant hand?
8007S	Lucille Elizabeth Black	Grade 8	How do different personality types affect emotion coping
8016S	Natalie Norquist, Anna Grundhoefer	Grade 8	Consciousness of Color
8017T	Caitlin O'Gary	Grade 8	Memory Makers...Ears or Eyes
8019S	Dylan J Sand	Grade 8	Do Students Work More Accurately in Gender Specific or Coed Groups
8022S	Skye Y Her	Grade 8	A Buggy, Caloric Delicacy
8025W	Sienna Lynn Peacock	Grade 8	The antibacterial properties of essential oils.
8027S	Mason Robert Salverda	Grade 8	The Chicken Bone Experiment
8032W	Jennie Ehlert, Elizabeth Berman	Grade 8	Russel's Wrestle: Predicting Meltdowns in an FASD Child
8041S	Claire Dwyer	Grade 8	How Different Fuels Affect Energy Release in Combustion
8044T	Hannah E Farmer	Grade 8	Investigating Exotic Protein Sources
8049S	Kaylee Kipfmueller	Grade 8	Do name brand pain relievers dissolve faster than generic pain relievers?
8051T	Kenny Larmie	Grade 8	Powerful Peppers
8058T	Max J Vogel	Grade 8	Got Gas v2: A Follow-up Investigation into the Efficiency of Ethanol

8065T	Corrine N Brown	Grade 8	An In-Depth Study About Waves
8069T	Manashree S Padiyath	Grade 8	Mining My Business: Biochar Remediation of Acid Mine Drainage Impacted Soil
8070W	Jack Peterson, Sohil Patel	Grade 8	The Pure Solution: A Portable Water Filter For Third World Countries
8072T	Josephine L Ramirez	Grade 8	Solar Heat Storage for Use in Greenhouses
8076S	Maasia S Apet	Grade 8	CO2 Is An Predictor Of Ethanol Production Potential
8080T	Jessica L Jennings	Grade 8	Internal Temperatures of Colored Birdhouses
8087W	Kerui Yang	Grade 8	How Icing on Wind Turbine Blades Affects Power Generation: Physical Equation and Quantitative Analysis
8092T	Jack Lowe	Grade 8	Building A Better Lint Trap
8095W	Abigail Roh, Sam Detor	Grade 8	Redesigning Cold Frame Operation For Food Justice
8100W	Morgan Richter, Henry Koch	Grade 8	Wrapper Reclamation From The Waste Stream
8101S	Charles H Rogers Jr.	Grade 8	Wind Energy
8103S	James A Carlson	Grade 8	How do different textures affect drag in water?
8111S	Kira Vega	Grade 8	At Least They're Zit Free: Effects of Microbead Facial Cleanser on Black Bean Germination
8112W	Dylan Vincent, Derek Turner III, Roberaa Ayana	Grade 8	Antibacterial Properties of Colloidal Silver
8113T	Michael Finch Jr	Grade 8	How Does The Fin Length Affect a Swimmer's Speed?
8118S	Joseph J Westermeyer VI	Grade 8	Which Type of Winglet Increases Lift the Most?
8121S	Ellie L McConville	Grade 8	The Effects of Pond Vegetation on Nitrogen Levels in Polluted Water Using the Theory of Phytoremediation

The Broadcom MASTERS (Math, Applied Science, Technology and Engineering for Rising Stars), Society for Science & the Public

Top grade 6-8 students nominated to compete nationally online where they will explain their science project and demonstrate their use of STEM principles - science, technology, engineering and math - in the development and presentation of their project.

Twin Cities

6015T	Logan R Olson	Grade 6	Keeping Warm
8092T	Jack Lowe	Grade 8	Building A Better Lint Trap
8058T	Max J Vogel	Grade 8	Got Gas v2: A Follow-up Investigation into the Efficiency of Ethanol
8069T	Manashree S Padiyath	Grade 8	Mining My Business: Biochar Remediation of Acid Mine Drainage Impacted Soil
6006T	Patrick C Gainor	Grade 6	Headphones vs. Parent: How much volume is needed to get a kid's attention
8072T	Josephine L Ramirez	Grade 8	Solar Heat Storage for Use in Greenhouses
8051T	Kenny Larmie	Grade 8	Powerful Peppers
8044T	Hannah E Farmer	Grade 8	Investigating Exotic Protein Sources
6042T	Vincent C Ramirez	Grade 6	Conductive Paste
8017T	Caitlin O'Gary	Grade 8	Memory Makers...Ears or Eyes
8003T	Sydney R Stone	Grade 8	Splash

Western Suburbs

8032W	Jennie Ehlert, Elizabeth Berman	Grade 8	Russel's Wrestle: Predicting Meltdowns in an FASD Child
7075W	Julia A Brouwer	Grade 7	Leafy Green Astronauts: How Space Radiation Affects Seed Germination and Plant Growth
6029W	Kate Norman	Grade 6	Organic vs. Synthetic A Study of Fertilizers in Hydroponics
8087W	Kerui Yang	Grade 8	How Icing on Wind Turbine Blades Affects Power Generation: Physical Equation and Quantitative Analysis
8112W	Dylan Vincent, Derek Turner III, Roberaa Ayana	Grade 8	Antibacterial Properties of Colloidal Silver
8095W	Abigail Roh, Sam Detor	Grade 8	Redesigning Cold Frame Operation For Food Justice

St. Paul

6010S	Will Hamilton	Grade 6	Swimming with Eggs: What type of liquid stains your teeth the most?
6053S	Max Rouillard-Horne	Grade 6	The Power of Attraction!

8121S	Ellie L McConville	Grade 8	The Effects of Pond Vegetation on Nitrogen Levels in Polluted Water Using the Theory of Phytoremediation
7022S	Anindita Rajamani	Grade 7	Fast Food Assistant
8005S	Olivia D Ahrens	Grade 8	Is your dominant hand more affected by cold than your non-dominant hand?
7064S	Anna M. Gaudio	Grade 7	Which type of material makes the strongest paper?
7066S	Everett J Ries	Grade 7	Arrow Material and Tip Shape vs. Speed and Penetration
7036S	Anna Schmidt, Lily Osmond	Grade 7	Apple Browning: A Study in Enzymatic Browning
8041S	Claire Dwyer	Grade 8	How Different Fuels Affect Energy Release in Combustion
8049S	Kaylee Kipfmueller	Grade 8	Do name brand pain relievers dissolve faster than generic pain relievers?
8103S	James A Carlson	Grade 8	How do different textures affect drag in water?
8007S	Lucille Elizabeth Black	Grade 8	How do different personality types affect emotion coping
7085S	John Walbran	Grade 7	Python vs. C
6041S	Charlie Ostergren	Grade 6	Does Ski Wax Matter?
8118S	Joseph J Westermeyer VI	Grade 8	Which Type of Winglet Increases Lift the Most?
7047S	Janey C Post	Grade 7	Minnesota: Land Of 10,000 Acidic Lakes
8027S	Mason Robert Salverda	Grade 8	The Chicken Bone Experiment
8101S	Charles H Rogers Jr.	Grade 8	Wind Energy

High School Research Papers Selected for Competition at the Tri-State Junior Science and Humanities Symposium North Central JSHS

101	Ryan T Etwiler, Moira Southern	Grade 12	Programming a socially assistive humanoid NAO robot to deliver Down syndrome physical therapy
102	Fiona W. Chow	Grade 10	All About Those Blades
104	Garrett W Riedesel	Grade 10	The Effect of Base Pitch and Length Alteration on the Height a Propeller Achieves
105	Nathaniel R Farmer	Grade 11	Wearable Mask Fit Monitor
107	Victor H Sanchez Villegas	Grade 10	Correlation between resistance of insulators and conductors and increases in temperature.
109	Samuel J Rex, Genevieve C Weiler	Grade 11	Printing an organ: Developing a protocol to 3-D bioprint a gastro-esophageal junction
116	Katherine T. Do	Grade 10	Correlation Between Fruit Density and Vitamin C Quantity
125	Alexander L Guzman, Cassidy Yueh	Grade 12	Can fish poop power aquaponics systmes?
126	Siddarth Eswarachari, Sarah Carlson	Grade 12	Cleaner Water: Investigating homogentisate chemotaxis receptors in Pseudomonas putida F1 for bioremediation of aromatic hydrocarbons, year two
127	Robert S Wedan	Grade 10	Phantom Energy Consumption in Suburban Homes
128	Jadyn A Smith	Grade 10	How Changes In Acidity Affect The Survival Rates In An Invertebrate Population
141	Makaela M Kallstrom	Grade 10	The Effects Talking and Texting Has on Reaction Time
142	Emilia F Topp-Johnson	Grade 10	Behind the Kernels III: An Evaluation of Fungal Endophytes of Maize and their Hypothesized Mitigation of Temperature Stress
147	Rajiv S Dharnipragada	Grade 11	Insect Immune Response to Fungal Pathogens
148	Madeline C McCue, Evelyn G McChesney	Grade 12	Engineering a broad-spectrum antibacterial probiotic via inclusion of antimicrobial peptide-encoding DNA, year two
149	Prashant Godishala, Brennan Clark	Grade 12	Predicting a cancerous outcome: Creating a test for assessing risk of human papilloma virus-associated oropharyngeal cancer
155	Rachel N Waterman	Grade 10	The Effectiveness of Green Disinfectants
160	Aadarsh S Padiyath	Grade 12	The Bitter Truth! Investigation of the Mechanism of Action of Common Sweeteners on Gut Microbiota
161	Harini Kethar	Grade 11	Bioengineered RGS5 Induced Adenoviral Drug Delivery and Smooth Muscle Cell Differentiation to Suppress Cardiac Disease Vasoconstrictor Remodeling
168	Christine Luo	Grade 11	A Machine Learning Approach for Accurate Diagnosis of Heart Disease
171	Darartu M Gamada	Grade 12	Identifying gene function in antibody mediated kidney rejection

172	Nicholas M Schatz	Grade 10	A Novel Stylometric Solution to the Problem of Many Potential Authors
174	Archana B Murali, Elena Berman	Grade 11	Window to the brain: Diagnosing Alzheimer's disease using retinal biomarkers
182	Emily M Reynolds	Grade 10	Auditory Feedback versus Visual Feedback in Terms of Correcting a Motor Skill
183	Hayley S Ladwig	Grade 10	Location of Object to Dominant Hand Opposed to Association of a "Gendered" Color for the Selection of an Object
184	Kenzie J Schroeder	Grade 10	Difference in Heart Rate with Different Style of Video Games
185	Samuel W Rossow	Grade 10	The Effect of Font Color and Type on Test Scores
188	Lauren C Borchart	Grade 10	The Effect of Disinfectants on the Development of E.coli Resistance
201	Nate A Drobnick	Grade 10	A Comparison of Bacteria Levels in Hockey and Football Protective Equipment
207	Kennedy Anderson	Grade 10	Conditioning People to Perceive Music in the Absence of Music
211	Thanhminh T Dinh	Grade 10	The Effects of Music on Microbial Growth
215	Meghana Iyer	Grade 11	Bioengineering the Lung: Investigating the Effects of a Lung Extracellular Matrix on the Growth and Differentiation of Stem Cells into Definitive Endoderm
223	Brock V Schultz	Grade 10	What Is More Effective In Memory Recall; Auditory or Visual Input
226	Jessica Weng	Grade 12	Can APOBEC3B gene be a therapeutic target for breast cancer?
227	Isabella R Jennings, Cole Maxwell	Grade 11	Biomolecular modeling, simulation, and design of a bivalent CB2-CCR5 ligand for the potential treatment of HIV/AIDS in the brain
239	Anna M Warmka	Grade 10	Dog Reaction to Different Visual Stimuli
252	Avni Jain	Grade 9	An eco-friendly approach for removal of toxic pentavalent arsenic from oryza sativa (rice)
256	Maggie J Hennessy	Grade 10	Sound Transmission Through Various Materials
261	Katie M Lyon	Grade 10	Analysis of Effectivity of Wolf Tone Suppressors
275	Max Ylitalo	Grade 12	Energy Production from Waste Reduction Phase III: Experimental Design Optimization of Surfactant Enhanced Waste Paper Hydrolysis
280	Serena L Jing	Grade 11	Inexpensive, portable glucose monitor for diabetics via a crosslinked sensing fluid
281	Cindy N Nguyen	Grade 12	Verification of the Stefan Boltzmann Law: The Effect of Increasing Voltage and Current on Temperature and Luminosity

Middle School Research Papers Selected for Competition at the Minnesota State Science & Engineering Fair

Symposium style presentation of research papers grades 6-8 - April 3-5, 2016

501	Penelope A Casper	Grade 6	Golf Course Bunker Sand Comparison
503	Jack S Alexander	Grade 7	How Does Cold Affect Weight-Bearing Abilities in Steel?
504	Jack Lowe	Grade 8	Novel Application of Cyclonic Separation
505	Sophia M Schroepfer	Grade 8	Inductive Charging
506	Kerui Yang	Grade 8	How Icing on Wind Turbine Blades Affects Power Generation: Physical Equation and Quantitative Analysis
508	Grant A Park	Grade 7	Global Ozone and Black Carbon: The Seemingly Unstoppable Atmospheric Pollutants
510	Manashree S Padiyath	Grade 8	Mining My Business: Biochar Remediation of Acid Mine Drainage Impacted Soil
511	Kate Norman	Grade 6	Organic vs. Synthetic A Study of Fertilizers in Hydroponics
513	Julia A Brouwer	Grade 7	Leafy Green Astronauts: How Space Radiation Affects Seed Germination and Plant Growth
514	Faith I Geis	Grade 8	Chemicals, Germination, and Corn! Oh My!
517	Bridget Vang	Grade 6	Which fish produce the most nitrates to help plants grow?
519	Hailey J. Miedema	Grade 7	Take A Load Off: The Effects of Backpack Weight on Spinal Health
523	Kate M Happe	Grade 6	Liar, Liar, Pants On Fire!
525	Grant Seyller	Grade 7	Which microgreen produces the most energy factoring growth time, growth yield and energy yield?
526	Annika Stall	Grade 6	How Does Salt Affect The Temperature of Ice?
528	Hannah E Farmer	Grade 8	Investigating Exotic Protein Sources
529	Max J Vogel	Grade 8	Got Gas v2: A Follow-up Investigation into the Efficiency of Ethanol
530	Nicole E Doering	Grade 6	The Science of Making Perfume

3M Renewable Energy Award

Plaque and \$100.

High School

1110W	Alexander L Guzman, Cassidy Yueh	Grade 12	Can fish poop power aquaponics systems?
1126W	Arush Jain	Grade 12	Energy Density and Commercial Viability Assessment of Solid Waste to Biofuel Generation using Pyrolysis

Middle School

8041S	Claire Dwyer	Grade 8	How Different Fuels Affect Energy Release in Combustion
6032T	Rikhil L Seshadri	Grade 6	Suitable light sources for in-home photoelectric generation

3M Aerospace Award

Certificate, \$50 Visa card

6039T	Orion Tyrrell	Grade 6	Fin cross sections - Square Round or Airfoil
1156T	Allie M Draper	Grade 10	Winglets and their effect on the lift of an airplane's wing
8118S	Joseph J Westermeyer VI	Grade 8	Which Type of Winglet Increases Lift the Most?
7059W	Alexander Etzell	Grade 7	The Effect of Dihedral on Model Airplane Flight Time

3M Inventors Award

Certificate and invitation to a 3M Inventors event.

1189W	Ryan T Etwiler, Moira Southern	Grade 12	Programming a socially assistive humanoid NAO robot to deliver Down syndrome physical therapy
1133T	Nathaniel R Farmer	Grade 11	Wearable Mask Fit Monitor
1138W	Siddarth Eswarachari, Sarah Carlson	Grade 12	Cleaner Water: Investigating homogentisate chemotaxis receptors in Pseudomonas putida F1 for bioremediation of aromatic hydrocarbons, year two
1074S	Serena L Jing	Grade 11	Inexpensive, portable glucose monitor for diabetics via a crosslinked sensing fluid
1095W	Bridget Carroll	Grade 12	Plastics Bioremediation Model using Microorganisms Genomics
1089W	Avni Jain	Grade 9	An eco-friendly approach for removal of toxic pentavalent arsenic from oryza sativa (rice)
1128T	Max Ylitalo	Grade 12	Energy Production from Waste Reduction Phase III: Experimental Design Optimization of Surfactant Enhanced Waste Paper Hydrolysis
6035T	Shayaan H Gandhi	Grade 6	Smoke under Water
7060W	Carolina C Scott	Grade 7	Get to the Pointe!

Teacher Excellence Award

(teacher name Here)

(teacher name Here)

American Chemical Society

- Certificate & \$50 cash (mail in)

1089W Avni Jain

Grade 9

An eco-friendly approach for removal of toxic pentavalent arsenic from oryza sativa (rice)

American Chemical Society

- Certificate

1084S Margaret L Cudahy

Grade 11 Gummy Bear Osmosis Lab

1086S Samsam A Dirie

Grade 12 Effects of injection solvent on retention time and
peak shape in Reverse Phase Liquid
Chromatography-Mass Spectrometer (RPLC-MS)

American Meteorological Society Award
Certificate for outstanding achievements in Meteorological Science

Twin Cities

7048T Liliana M Rojas Grade 7 Evaporation Rate of Liquids

Western Suburbs

7045W Grant A Park Grade 7 Global Ozone and Black Carbon: The Seemingly
Unstoppable Atmospheric Pollutants

7042W Ilse K Fredrickson Grade 7 Soil Erosion What Can Stop It Rock Grass or
Nothing

St. Paul

8073S Seamus O Regan Grade 8 Does Warmer Water Produce Stronger Hurricanes

7041S Maeli Bryn Engelman Grade 7 Soil Erosion

American Psychological Association Award

Certificate

Twin Cities

1021T Noelle M Hinrichs Grade 12 Manipulating Memory Using Suggestion

Western Suburbs

1144W Arun Kethar Grade 12 Investigating the Effectiveness of Pricing Models
for Consumer Goods in Generation Z

St. Paul

1023S Isabella Isett Grade 12 Getting in Tune with the Brain

ASM International Materials Education Foundation Award

Certificate & medallion (In the mail) recognizing the best materials engineering project

Twin Cities

Best materials engineering project

1159T Maggie J Hennessy Grade 10 Sound Transmission Through Various Materials

Western Suburbs

Best materials engineering project

St. Paul

Best materials engineering project

1155S Matt R Bluhm Grade 11 Meteor Impact

ASU Walton Sustainability Solutions Initiatives

Certificate and nomination to next level.

Twin Cities

1133T	Nathaniel R Farmer	Grade 11	Wearable Mask Fit Monitor
1114T	Gregory L Johnson	Grade 10	Effectiveness of Limonene from Citrus Fruit as a Natural Alternative in Reducing Polystyrene

Western Suburbs

1089W	Avni Jain	Grade 9	An eco-friendly approach for removal of toxic pentavalent arsenic from oryza sativa (rice)
1126W	Arush Jain	Grade 12	Energy Density and Commercial Viability Assessment of Solid Waste to Biofuel Generation using Pyrolysis

St. Paul

1186S	Katherine A Tennis	Grade 12	Unorganized Plants in the Unorganized Thunder Bay District
1187S	Emilia F Topp-Johnson	Grade 10	Behind the Kernels III: An Evaluation of Fungal Endophytes of Maize and their Hypothesized Mitigation of Temperature Stress

Bright Future Award

Certificate & gift to 6th grade excellent student - given by national winner Carolyn Jons

6039T Orion Tyrrell

Grade 6 Fin cross sections - Square Round or Airfoil

East Side Science Club Alumni Award

Medals are presented to outstanding youths that demonstrate innovation and creativeness in project development

6030S	Guillemette Schroepfer	Grade 6	Which Liquid Creates the Most Runoff
6006T	Patrick C Gainor	Grade 6	Headphones vs. Parent: How much volume is needed to get a kid's attention
6034S	Malcolm Fares	Grade 6	Power to the Plating
7014S	Nora A Thomey	Grade 7	The Feeling in Your Hands
7055S	Jevon A Jones, Jeremy J Rivera	Grade 7	Battery Powered Hotdog Cooker
7061S	Phelameena Lee	Grade 7	How much faster can food cook from a solar oven?
8014S	Kabao Lee	Grade 8	Project Multitask
8065T	Corrine N Brown	Grade 8	An In-Depth Study About Waves
8105S	Sawyer E Wall	Grade 8	The Steel Deal

Glen & Jacob Domeier Memorial Award

Certificate, compass, book, \$50

7066S	Everett J Ries	Grade 7	Arrow Material and Tip Shape vs. Speed and Penetration
1138W	Siddarth Eswarachari, Sarah Carlson	Grade 12	Cleaner Water: Investigating homogenisate chemotaxis receptors in <i>Pseudomonas putida</i> F1 for bioremediation of aromatic hydrocarbons, year two

Graduate Women In Science Projects Award

University of Minnesota Graduate Women in Science

Grade 6

6005W Sydney S Drees Grade 6 How Fear Changes With Age

Grade 7

7047S Janey C Post Grade 7 Minnesota: Land Of 10,000 Acidic Lakes

Grade 8

8005S Olivia D Ahrens Grade 8 Is your dominant hand more affected by cold than your non-dominant hand?

Grade 9

1171S Yusanat Tway Grade 9 Angles of Serving

Grade 10

1153T Megan R Osterhaus Grade 10 Correlation Between Different Methods of Mummification and Amount of Bacterial Growth/Variation from Subject's Original Condition

Grade 11

1082S Geeta Rajamani Grade 11 Controlling Noxa Protein Expression by a Novel Approach to Study its Function in Leukemic Cells

Grade 12

1186S Katherine A Tennis Grade 12 Unorganized Plants in the Unorganized Thunder Bay District

Graduate Women In Science Papers Award

University of Minnesota Graduate Women in Science

Grade 6

526 Annika Stall Grade 6 How Does Salt Affect The Temperature of Ice?

Grade 7

512 Ilse K Fredrickson Grade 7 Soil Erosion What Can Stop It Rock Grass or Notjing

Grade 8

505 Sophia M Schroepfer Grade 8 Inductive Charging

Grade 9

252 Avni Jain Grade 9 An eco-friendly approach for removal of toxic pentavalent arsenic from oryza sativa (rice)

Grade 10

261 Katie M Lyon Grade 10 Analysis of Effectivity of Wolf Tone Suppressors

Grade 11

168 Christine Luo Grade 11 A Machine Learning Approach for Accurate Diagnosis of Heart Disease

Grade 12

282 Christine N Thao Grade 12 Exploration of Hole Spacing Correction factors in flute design

Inspiring Excellence Award - Projects

\$50

8072T	Josephine L Ramirez	Grade 8	Solar Heat Storage for Use in Greenhouses
8041S	Claire Dwyer	Grade 8	How Different Fuels Affect Energy Release in Combustion
1191T	Akin Campbell	Grade 12	Collaboration Pals: Increasing opportunities for inter-generational relationships
8078S	Christina T Treacy	Grade 8	Which Type of Food Gives You the Most Energy?

Inspiring Excellence Award - Teacher
Dr. Jennifer Hugstad-Vaa

Dr. Jennifer Hugstad-Vaa

Integrated Approach to Science

High School

1098W	Christine Luo	Grade 11	A Machine Learning Approach for Accurate Diagnosis of Heart Disease
1035T	Nivian M Nyakundi	Grade 10	The Effects of Hand/Eye Dominance on Basketball Shooting Percentage
1145T	Mallory L O'Brien	Grade 10	Gaussian probability and bell curve function test

Middle School

6036S	Xander Herrmann	Grade 6	Do wheels or treads make the best Martian rover?
8101S	Charles H Rogers Jr.	Grade 8	Wind Energy
7031S	Bridget E Lee	Grade 7	Removability of Permanent Marker

Intel Excellence in Computer Science Award

Certificate and \$200 (check in the mail)

Twin Cities

1191T Akin Campbell Grade 12 Collaboration Pals: Increasing opportunities for inter-generational relationships

Western Suburbs

1189W Ryan T Etwiler, Moira Grade 12 Programming a socially assistive humanoid NAO Southern robot to deliver Down syndrome physical therapy

St. Paul

ISEF Alumni Awards

Former ISEF Finalists recognizing up-and-coming young scientists

Sponsor: Michael Lohman, Jr

One hour in a flight simulator

8118S Joseph J Westermeyer VI Grade 8 Which Type of Winglet Increases Lift the Most?

Sponsor: Kyrstin Underbakke Ball

Certificate & \$25 cash

8032W Jennie Ehlert, Elizabeth Grade 8 Russel's Wrestle: Predicting Meltdowns in an
Berman FASD Child

Sponsor: Kyra Zimmerman

Certificate & \$25 cash

8007S Lucille Elizabeth Black Grade 8 How do different personality types affect emotion
coping

8034W Mary R O'Grady Grade 8 Safety and Tolerance Testing for the
Commercialization of Sambusa

Sponsor: Timara Underbakke

Certificate & \$25 cash

7075W Julia A Brouwer Grade 7 Leafy Green Astronauts: How Space Radiation
Affects Seed Germination and Plant Growth

Caffeinated Student Award Sponsor: Kyra Zimmerman

Starbucks gift card for hard work, enthusiasm, & spent way "too much" time doing science!

8044T Hannah E Farmer Grade 8 Investigating Exotic Protein Sources

ISWEEEP

Outstanding Projects to Participate in International Sustainable World (Energy, Engineering, & Environment) Project Olympiad; Houston, TX, May 7-11, 2015

ISWEEEP Finalists, April 26 - May 1, 2016 in Houston, TX

These projects bypass the prequalification round of ISWEEEP.

1137T	Fiona W. Chow	Grade 10	All About Those Blades
1116T	Kaylee M Martynow	Grade 10	Polycyclic Aromatic Hydrocarbons and Their Effects On Wetlands
1121T	Robert S Wedan	Grade 10	Phantom Energy Consumption in Suburban Homes
1129S	Lucia M Calatayud	Grade 11	Maximum Solar Energy
1126W	Arush Jain	Grade 12	Energy Density and Commercial Viability Assessment of Solid Waste to Biofuel Generation using Pyrolysis

Joel Wagner Caring Bridge Award
\$50 and trophy

1082S Geeta Rajamani

Grade 11 Controlling Noxa Protein Expression by a Novel
Approach to Study its Function in Leukemic Cells

Killeen Memorial Award

Trophy to the student who best shows inspiration for their project

1089W Avni Jain

Grade 9

An eco-friendly approach for removal of toxic pentavalent arsenic from oryza sativa (rice)

Minnesota Agriculture in the Classroom

Project Senior High

1089W Avni Jain

Grade 9 An eco-friendly approach for removal of toxic pentavalent arsenic from oryza sativa (rice)

Project Junior High

7042W Ilse K Fredrickson

Grade 7 Soil Erosion What Can Stop It Rock Grass or Nothing

Paper Senior High

Paper Junior High

517 Bridget Vang

Grade 6 Which fish produce the most nitrates to help plants grow?

Minnesota Astronomical Society

1155S Matt R Bluhm
8115S William J Gray

Grade 11 Meteor Impact
Grade 8 A Reflection on the Nature of Refraction

Minnesota Chapter of American Fisheries Society

Senior High

- 1110W Alexander L Guzman, Grade 12 Can fish poop power aquaponics systmes?
Cassidy Yueh
- 1113T Cleo G Haugen, Sydney C Grade 9 Nitrate Levels Along The St. Croix River
Connor, Meade H Acers

Junior High

- 7062W Ani Tonoyan Grade 7 The Effect of Seasons on the Bacteria levels in
Minnesota Ponds and Streams

Minnesota Space Frontier Society Award

6036S	Xander Herrmann	Grade 6	Do wheels or treads make the best Martian rover?
6039T	Orion Tyrrell	Grade 6	Fin cross sections - Square Round or Airfoil
7074S	Dan D Rueter	Grade 7	Is it Newtonian or Non-Newtonian?
7075W	Julia A Brouwer	Grade 7	Leafy Green Astronauts: How Space Radiation Affects Seed Germination and Plant Growth
7084T	Milan E Jostes	Grade 7	Moving Soft Grip Robot
8118S	Joseph J Westermeyer VI	Grade 8	Which Type of Winglet Increases Lift the Most?
1156T	Allie M Draper	Grade 10	Winglets and their effect on the lift of an airplane's wing
1168S	Julio I Nakazono Luque, Paw Sar Khu	Grade 10	Rockets

Minnesota State Horticulture Award

Membership, magazine, and gift certificate

6057S	Erik Hanhan	Grade 6	Does Sound Affect the Growth of a Plant?
8125T	Bianna Taylor Warzeka	Grade 8	Tap vs. Recycled Water
1180T	Abigail R Herzog, Ian M Johnson, Lucas M Senta	Grade 11	The Effects of Microwave Radiation on the Growth Patterns of Bean Plants
1186S	Katherine A Tennis	Grade 12	Unorganized Plants in the Unorganized Thunder Bay District

Mu Alpha Theta Award

- Certificate for the project demonstrating the most challenging, original, thorough, and creative investigation of a problem involving mathematics

Twin Cities

1147T Nicholas M Schatz Grade 10 A Novel Stylometric Solution to the Problem of Many Potential Authors

Western Suburbs

1098W Christine Luo Grade 11 A Machine Learning Approach for Accurate Diagnosis of Heart Disease

St. Paul

NASA Earth System Science Award

Twin Cities

Western Suburbs

1126W Arush Jain

Grade 12 Energy Density and Commercial Viability
Assessment of Solid Waste to Biofuel Generation
using Pyrolysis

St. Paul

National Oceanic and Atmospheric Administration (NOAA)

"Taking the Pulse of the Planet"

- Certificate & medallion

Twin Cities

1128T Max Ylitalo

Grade 12 Energy Production from Waste Reduction Phase III: Experimental Design Optimization of Surfactant Enhanced Waste Paper Hydrolysis

Western Suburbs

7062W Ani Tonoyan

Grade 7 The Effect of Seasons on the Bacteria levels in Minnesota Ponds and Streams

St. Paul

8064S Jillian M Brenner

Grade 8 pH of Rainwater

Outstanding Volunteerism Award (USS Nokomis Club)
2016 for their plaque and many, many, many thanks for their hard work!

2016 for their plaque and many, many, many thanks for their hard work!

Penny Lohman Memorial Award

Trophy and \$75

Grand award

1073W Meghana Iyer

Grade 11 Bioengineering the Lung: Investigating the Effects of a Lung Extracellular Matrix on the Growth and Differentiation of Stem Cells into Definitive Endoderm

Radio City Award

- Awarded to Best Amateur Radio project

6046W	Daniela Beatriz Amadeo-Muñiz	Grade 6	Music from Outer Space
6052W	Alex Remick	Grade 6	Comparing the Effectiveness of Infrared and Radio Frequencies
8084T	Sophia M Schroepfer	Grade 8	Inductive Charging
8091S	Nicholas J Jacobsen V	Grade 8	How is WiFi strength affected by building material
8098W	Michael J Thompson	Grade 8	The Effect of wraps and amps on an electromagnets field strength
1125T	Emanuel Kassie	Grade 9	How Do Christmas Lights Affect Wi-Fi Speed?

Ricoh Sustainable Development Award

- Certificate to the project whose principles & technical innovations offer the greatest potential for increasing our ability to grow environmentally friendly & socially responsible businesses

Twin Cities

1178T Gavin C Donnelly

Grade 10 Wheatgrass Growth

Western Suburbs

St. Paul

Society for In Vitro Biology

**- Certificate to the most outstanding 11th grade student in the area of plant or animal in vitro
biology or tissue culture**

Twin Cities

Western Suburbs

St. Paul

Stockholm Junior Water Prize (SJWP)

- Certificate & eligible to enter the state SJWP competition by submitting their research paper

Twin Cities

- | | | | |
|-------|---|----------|--|
| 1113T | Cleo G Haugen, Sydney C Connor, Meade H Acers | Grade 9 | Nitrate Levels Along The St. Croix River |
| 1119T | Jadyn A Smith | Grade 10 | How Changes In Acidity Affect The Survival Rates In An Invertebrate Population |

Western Suburbs

- | | | | |
|-------|-------------------------------------|----------|---|
| 1138W | Siddarth Eswarachari, Sarah Carlson | Grade 12 | Cleaner Water: Investigating homogentisate chemotaxis receptors in <i>Pseudomonas putida</i> F1 for bioremediation of aromatic hydrocarbons, year two |
|-------|-------------------------------------|----------|---|

St. Paul

Twin Cities Regional Science Fair Excellence Award

6039T	Orion Tyrrell	Grade 6	Fin cross sections - Square Round or Airfoil
6004W	Merrick G Bearson	Grade 6	What Age Do Childproof Containers Stop Being Effective?
6045W	Shungu Zimbwa	Grade 6	Soap vs. Sanitizer
6007W	Kate M Happe	Grade 6	Liar, Liar, Pants On Fire!
7088T	Emma Powers	Grade 7	Smartboard Bacteria
7082S	Malee Yang	Grade 7	How Climate Change affects Bean Growth
7059W	Alexander Etzell	Grade 7	The Effect of Dihedral on Model Airplane Flight Time
7025T	Robert Jon Wessel	Grade 7	Eye Color To Vision
8001S	Will Altman	Grade 8	Caffeine
8075T	Luke D Zillig	Grade 8	Riverbeds and Erosion
8011S	Peter J Hommes	Grade 8	Does Smell Wear Out?
8077S	Heaven Aschalew	Grade 8	The Power Inside Energy Drinks
8102S	Raina E Sommer	Grade 8	Schmutzdecke! A test of how well slow sand filters with and without a schmutzdecke can remove different water contaminants

United States Air Force Awards

Best Project

Twin Cities

1156T	Allie M Draper	Grade 10	Winglets and their effect on the lift of an airplane's wing
1131T	Jake T Chudecke	Grade 10	Radar Invisablity

Western Suburbs

7059W	Alexander Etzell	Grade 7	The Effect of Dihedral on Model Airplane Flight Time
7075W	Julia A Brouwer	Grade 7	Leafy Green Astronauts: How Space Radiation Affects Seed Germination and Plant Growth
8097W	Gabriel C Stark	Grade 8	A.M. radio
6052W	Alex Remick	Grade 6	Comparing the Effectiveness of Infrared and Radio Frequencies

St. Paul

8041S	Claire Dwyer	Grade 8	How Different Fuels Affect Energy Release in Combustion
8059S	Mariah Waslie	Grade 8	Rocketology

United States Army Awards

Best Project

Twin Cities

1114T Gregory L Johnson Grade 10 Effectiveness of Limonene from Citrus Fruit as a Natural Alternative in Reducing Polystyrene

Western Suburbs

1194W Carlos A Sanchez, Jiahao Liang Grade 12 Real-time Human Breath Analysis: Designing an Ion Mobility-Mass Spectrometer for the Detection of Volatile Organic Compounds

St. Paul

8121S Ellie L McConville Grade 8 The Effects of Pond Vegetation on Nitrogen Levels in Polluted Water Using the Theory of Phytoremediation

United States Army Awards

Commended Award

Twin Cities

1100T Aadarsh S Padiyath Grade 12 The Bitter Truth! Investigation of the Mechanism of Action of Common Sweeteners on Gut Microbiota

1080T Felix Oh Grade 11 Genetically Engineered Biological Drugs for Human Sarcoma

1083T Maedin Abegaz, Danielle L Thompson Grade 12 The Use of Electrolysis to Create a Reverse Hydrolysis Reaction

Western Suburbs

1099W Archana B Murali, Elena Berman Grade 11 Window to the brain: Using retinal biomarkers to diagnose Alzheimer's disease

1073W Meghana Iyer Grade 11 Bioengineering the Lung: Investigating the Effects of a Lung Extracellular Matrix on the Growth and Differentiation of Stem Cells into Definitive Endoderm

1089W Avni Jain

Grade 9 An eco-friendly approach for removal of toxic pentavalent arsenic from oryza sativa (rice)

St. Paul

1086S Samsam A Dirie

Grade 12 Effects of injection solvent on retention time and peak shape in Reverse Phase Liquid Chromatography-Mass Spectrometer (RPLC-MS)

1161S Blake Jerue

Grade 12 Center of Percussion of a Baseball Bat

United States Department of Agricultural Research Award

6029W	Kate Norman	Grade 6	Organic vs. Synthetic A Study of Fertilizers in Hydroponics
7045W	Grant A Park	Grade 7	Global Ozone and Black Carbon: The Seemingly Unstoppable Atmospheric Pollutants
8123S	Nicole M Muetzel	Grade 8	Is H ₂ O the Way to Go?
1184S	Liza M Strom	Grade 11	Sweet Germination
1187S	Emilia F Topp-Johnson	Grade 10	Behind the Kernels III: An Evaluation of Fungal Endophytes of Maize and their Hypothesized Mitigation of Temperature Stress

United States Metric Association

- Certificate

Twin Cities

1180T Abigail R Herzog, Ian M Johnson, Lucas M Senta Grade 11 The Effects of Microwave Radiation on the Growth Patterns of Bean Plants

Western Suburbs

1126W Arush Jain Grade 12 Energy Density and Commercial Viability Assessment of Solid Waste to Biofuel Generation using Pyrolysis

St. Paul

1074S Serena L Jing Grade 11 Inexpensive, portable glucose monitor for diabetics via a crosslinked sensing fluid

United States Navy and Marines

High School Division

certificate & \$50 check (in the mail)

1095W	Bridget Carroll	Grade 12	Plastics Bioremediation Model using Microorganisms Genomics
1193W	Prashant Godishala, Brennan Clark	Grade 12	Predicting a cancerous outcome: Creating a test for assessing risk of human papilloma virus-associated oropharyngeal cancer
1194W	Carlos A Sanchez, Jiahao Liang	Grade 12	Real-time Human Breath Analysis: Designing an Ion Mobility-Mass Spectrometer for the Detection of Volatile Organic Compounds
1110W	Alexander L Guzman, Cassidy Yueh	Grade 12	Can fish poop power aquaponics systmes?
1089W	Avni Jain	Grade 9	An eco-friendly approach for removal of toxic pentavalent arsenic from oryza sativa (rice)

Middle School

certificate, medallion, letter

8072T	Josephine L Ramirez	Grade 8	Solar Heat Storage for Use in Greenhouses
8103S	James A Carlson	Grade 8	How do different textures affect drag in water?
8092T	Jack Lowe	Grade 8	Building A Better Lint Trap
6049T	William Merrigan	Grade 6	Heavy Load
6039T	Orion Tyrrell	Grade 6	Fin cross sections - Square Round or Airfoil
8065T	Corrine N Brown	Grade 8	An In-Depth Study About Waves
6052W	Alex Remick	Grade 6	Comparing the Effectiveness of Infrared and Radio Frequencies

University of Minnesota School of Social Work Research for the Common Good Award

Award plaque for project that demonstrates excellence in applied social sciences

High School

1014T Kristine C Brinkman Grade 10 Analyzing Human Recognition Through Vision and Voice

Middle School

8007S Lucille Elizabeth Black Grade 8 How do different personality types affect emotion coping

Yale Science and Engineering Association, Inc.

- Certificate for an 11th grade student in computer science, engineering, physics, or chemistry

Twin Cities

1133T Nathaniel R Farmer Grade 11 Wearable Mask Fit Monitor

Western Suburbs

1073W Meghana Iyer Grade 11 Bioengineering the Lung: Investigating the Effects of a Lung Extracellular Matrix on the Growth and Differentiation of Stem Cells into Definitive Endoderm

St. Paul

1074S Serena L Jing Grade 11 Inexpensive, portable glucose monitor for diabetics via a crosslinked sensing fluid

Schools Trophies