

2023 MSEF Middle School Award Winners

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Cabot Grand Prize Award

**Nichelle
Thinagar**

Oak Middle School
Shrewsbury

*Removing Nitrogen and Phosphorus from Water for the
Prevention of Eutrophication*

Cabot Spotlight First Place Award

**Anoushka
Nikumbh**

Oak Middle School
Shrewsbury

*CHARGE-Capturing Heat and Regenerating Electricity using
Thermoelectric Generators*

First Place Awards

**Olivia Chen,
Qinghe Zhao**

Boston Latin School
Boston

Bioluminescence of A Glowing Algae

**Audrianna
Krikorian**

Saint Augustine School North
Andover

Is Blood Pattern Analysis Accurate?

Aisha Zaheer

Islamic Academy for Peace
Andover

Does gravity affect plant growth?

**Katerina
Panagiotidis**

West Tatnuck Elementary
Boylston

Grow Up

Arushi Vora

Sarah W. Gibbons Middle
Westborough

*The effect of certain combinations of factors on luminol
chemiluminescence*

Giuliana Bonetti

Dr. Arthur F. Sullivan Middle
Worcester

A Glutton for Gluten

Elizabeth Vetzev, Rebecca John	Andover West Middle <i>Andover</i>	<i>Cardio for Chemo</i>
Harrison Braman	Lesley Ellis School <i>Arlington</i>	<i>Fix it Until it Brakes</i>
Rajarshi Mandal	Wm Diamond Middle <i>Lexington</i>	<i>Automated Apple Disease Detection Using a Deep Learning Approach Based on Convolutional Neural Networks</i>
Chloe Abou-Ezzi	Saint Augustine School <i>Methuen</i>	<i>The Effects of Pollutants on Botryllus schlosseri</i>

Second Place Awards

Pradnya Cowlagi	Oak Middle School <i>Shrewsbury</i>	<i>Screen Time for Worms: The Effects of Irregular Light Patterns on Locomotion and Fertility in Caenorhabditis Elegans</i>
Sapna Malhotra	John Eliot K-8 <i>Boston</i>	<i>How Clean Is Our Drinking Water? A Detection of Impurities in Water Sources Throughout Boston and other Cities.</i>
Suhrit Ghosh	Oak Middle School <i>Shrewsbury</i>	<i>Effectiveness of automatic braking vs. manual braking (in a car)</i>
Aditya Naravane	North Attleboro Middle School <i>North Attleboro</i>	<i>Prediction of Heart Disease Using a Trained Multilayer Perceptron</i>
Stephen Cronin	St Catherine of Siena Middle <i>Norwood</i>	<i>Glacier Geoengineering</i>
Srivibhu Piratla	Advanced Math and Science Academy Charter School <i>Bellingham</i>	<i>Rain or Shine</i>
Ethan Mort, Shreyas Peddigari, Vikram Hiranandani	Sarah W. Gibbons Middle <i>Westborough</i>	<i>Automated Pill Dispenser</i>

Graham Stoessel, Ian Mauro	Dover-Sherborn Regional Middle School <i>Sherborn</i>	<i>Mealworms Decomposing Polystyrene</i>
Serena Akinboboye	North Attleboro Middle School <i>North Attleboro</i>	<i>Audio, Visuals, Words: What do most people learn best with?</i>
Derek Liu, Elaine Zhang, Jackson Bender	Dover-Sherborn Regional Middle School <i>Dover</i>	<i>SBS</i>
Chelsea Bateman	Boston Latin School <i>Boston</i>	<i>The Effects of Pollution on Vernal Pools in Urban Areas: A Comparison of Runoff Collected Near a Certified and Non-Certified Vernal Pool</i>
Neha Nagireddy	Oak Middle School <i>Shrewsbury</i>	<i>Battling World Issues with a New Water System</i>
Seren Banner-Goodspeed	Boston Latin School <i>Boston</i>	<i>Orca Health in Captivity and the Wild</i>
Miftah Sifat	Sherwood Middle School <i>Shrewsbury</i>	<i>Analysis of Vitamin C Content in Fresh Juices and Packed Juices</i>
Shrinivasa Makaram	Robert E Melican Middle <i>Northborough</i>	<i>Solenoid Forces</i>
Abby Odden	Doherty Middle <i>Worcester</i>	<i>The Effects of the Atmosphere on Light</i>
Elizabeth Cosgrove	St Mary School <i>Mansfield</i>	<i>Modeling Knee Movements</i>
Giang Nguyen	Raymond J Grey Junior High <i>Acton</i>	<i>Effect of NPK on Plant Development Indoors during Winter</i>
Dhanusha Ramadas, Mia Zhao, Shriya Prabhakar	Sarah W. Gibbons Middle <i>Westborough</i>	<i>Phototropism using different colored lights</i>
Johan Coisman	Weston Middle School <i>Weston</i>	<i>Chilling Out with Marine Cloud Brightening</i>

Third Place Awards

Mercedes MacLean, Reshum Aurora	Ashland Middle School <i>Ashland</i>	<i>Eco-Friendly Plant Fertilizer</i>
Anwita Wadekar	Saint Bernadette School <i>Westborough</i>	<i>Breakfast for Plants: Fertilizers from Table to Farm</i>
William Cullimore	Pioneer Charter School of Science II (PCSS-II) <i>Salem</i>	<i>tide energy</i>
Manal Mahfudh	Pioneer Charter School of Science II (PCSS-II) <i>Revere</i>	<i>How do holograms work?</i>
Abigail Manning	St. Francis Xavier School <i>Acushnet</i>	<i>Store-bought, Frozen, or Off the Tree, Which Has More Vitamin C?</i>
Aditi Korrapati	Raymond J Grey Junior High <i>Acton</i>	<i>How do Different Packaging Materials Affect the Quality of Vegetables and Fruits?</i>
Freddy Elhayek	St Catherine of Siena Middle <i>Norwood</i>	<i>Kidneys</i>
Dhatri Daggubati, Sanjana Karlmarx	Foxborough Regional Charter <i>Plainville, Foxborough</i>	<i>The Secret Life of Worms Under the Grass</i>
Zach Chiu	Lesley Ellis School <i>Newton</i>	<i>Chill Out! How To Make a Better Ice Pack</i>
Ryan Groszmann	Lesley Ellis School <i>Belmont</i>	<i>Low Cost Crosswalk Alert System For Pedestrians</i>
Vineeth Godavarti	Blanchard Middle <i>Westford</i>	<i>It's Never Too Late to Quit. How Smoking Affects the Human Body</i>
Aarin Mugundu	Jonas Clarke Middle <i>Lexington</i>	<i>The effect of human body temperature on reaction time</i>
Eli Stroika, Liam O'Neill, Parker Stephenson	Saint Augustine School <i>Haverhill, Tewksbury, Andover</i>	<i>How Do Different Liquids Affect Plant Growth?</i>

Aidan Leschuk, Avery Squiciarino, Dan Winterberg	Pierce Middle School <i>Milton</i>	<i>Going Off the Grid: A Solar Solution for Energy Independence</i>
Olivia Amaral	North Attleboro Middle School <i>North Attleboro</i>	<i>How Does Color Affect Memory?</i>
Alyssa Merriam	West Tatnuck Elementary <i>Worcester</i>	<i>Exercise is Heart Work - Which exercise will affect heart rate the most?</i>
Anshika Pradham, Loukya Ravi	Sarah W. Gibbons Middle School <i>Dudley, Westborough</i>	<i>Nitrogen Fertilized Plant</i>
Emerson Ohashi	Boston Latin School <i>Boston</i>	<i>The Effect of a Condition on a Plant's Growth</i>
Abdul muhaymin rahman	Islamic Academy for Peace <i>Leominster</i>	<i>sucrose and glucose oh my! uncovering hidden sugar in your food</i>
Daryn Do	Heath School <i>Brookline</i>	<i>Harvesting Energy from Rain or Snow Using Triboelectric Nanogenerator</i>

Honorable Mention

Ishika Kumar	Foxborough Regional Charter <i>Attleboro</i>	<i>Let There Be Light</i>
Cecilia Held	Lesley Ellis School <i>Belmont</i>	<i>How do different colored LED grow lights affect plant growth?</i>
Ryan Stimpson	Littleton Middle School <i>Littleton</i>	<i>A study of the effect of mint on the temperature of water.</i>
Aishwarya Ananthkrishnan, Jaydon Treadway, Sainaveen Lakshmi Narayan	Chandru Science Academy <i>Andover, Lexington</i>	<i>Interstellar travel: Cryogenics and the effect of Cryopreservation on Seed Germination</i>
Shyam Srinivasan	North Attleboro Middle School <i>North Attleboro</i>	<i>Using Ultraviolet Light to Preserve Fruits</i>
Devangi Bhargava, Tanvi Marri	Wm Diamond Middle <i>Lexington</i>	<i>The Effect of Indoor Plants on Human Health</i>

Caroline Hoenscheid, Rebecca Chen	Newton Country Day School <i>Newton</i>	<i>Stay Clean, Keep It Green</i>
Mannat Markan	Pioneer Charter School of Science <i>Everett</i>	<i>Three-in-one</i>
Isabelle Tao, Kyle Vo, Valerie Lindh	Plouffe Academy <i>Brockton</i>	<i>Ant Memory</i>
Zainab Chaudhry	Al-Noor Academy <i>Norton</i>	<i>The Stroop Effect</i>
Trieu An Luong	Worcester East Middle School <i>Worcester</i>	<i>Slowing the Surge! Which structure is more effective in slowing the effects of a tsunami?</i>
Annika Nordman, Julia Gould (Student), Selina Nguyen-Chau	Dr. Arthur F. Sullivan Middle <i>Worcester</i>	<i>Tomato sauce vs. Stain remover; Who will win?</i>
Alexis Cavanaugh	St Catherine of Siena Middle <i>Walpole</i>	<i>Microplants: Good or Bad</i>
Peter Van Voorhis	Rindge Avenue Upper School <i>Cambridge</i>	<i>The Impact of Color on the Human Mind; An Exploration of Common Effects on Mood and Informational Processing</i>
Aarav Desetty, Aryan Rakesh Nair	Sarah W. Gibbons Middle School <i>Westborough</i>	<i>Taming the Tsunami</i>
Dominic Shaughnessy	St. Francis Xavier School <i>Acushnet</i>	<i>The Effect of Group Dynamics on Conformity</i>
Aarez Osman, Aryan Dhoria	Dover-Sherborn Regional Middle <i>Dover, Sherborn</i>	<i>Levitating Water with the Leidenfrost Effect</i>
Mokkshita Arun, Raaina Daniar	Pioneer Charter School of Science <i>Melrose, Chelmsford</i>	<i>Atmospheric Water Generator (AWG)</i>
Brian Xu	Boston Latin School <i>Boston</i>	<i>Effects of Screen Time on Sleep Quality</i>
Rishi Balaji	Stanford OHS <i>Acton</i>	<i>Brushing Away Tremors with Spherification</i>

Hunter Sherman	Quaboag Regional High <i>Monson</i>	<i>Which Wing Style Produces the Most Lift</i>
Dhruv Kadam, Gus Patterson	Raymond J Grey Junior High <i>Acton</i>	<i>Effects of different colored light on plant growth</i>
Sena Kaplan	Islamic Academy for Peace <i>Metheun</i>	<i>Growth of Plants</i>
Mark Gemmett	Boston Latin School <i>Sherborn</i>	<i>Solar Activity v. Radio</i>
Abraham Klein, Charlie Young, Daniel Richardson	Dover-Sherborn Regional Middle <i>Sherborn, Dover</i>	<i>Wind effectiveness on turbines</i>

Special Awards

Lemelson Early Inventor Prize

Ethan Mort, Shreyas Peddigari, Vikram Hiranandani	Sarah W. Gibbons Middle School <i>Westborough</i>	<i>Automated Pill Dispenser</i>
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Broadcom Coding for Commitment Award

Rajarshi Mandal	Wm Diamond Middle <i>Lexington</i>	<i>Automated Apple Disease Detection Using a Deep Learning Approach Based on Convolutional Neural Networks</i>
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Novartis Award

Aditya Naravane	North Attleboro Middle School, <i>North Attleboro</i>	<i>Prediction of Heart Disease Using a Trained Multilayer Perceptron</i>
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Eversource Environmental Award

Daryn Do	Heath School <i>Brookline</i>	<i>Harvesting Energy from Rain or Snow Using Triboelectric Nanogenerator</i>
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Pauline J. LaMarche Memorial Award

**Isabelle Tao, Kyle Vo,
Valerie Lindh**

Plouffe Academy
Brockton

Ant Memory

Analog Devices Award

Sophie DeSavage

Burncoat Middle School
Worcester

*Can I make a Rube Goldberg machine that can
transfer one cup of water to another one?*

Thermo Fisher Scientific Junior Innovators Challenge Massachusetts Science & Engineering Fair Nominees*

Nichelle Thinagar	Oak Middle School
Anoushka Nikumbh	Oak Middle School
Olivia Chen, Qinghe Zhao	Boston Latin School
Audrianna Krikorian	Saint Augustine School (Andover)
Aisha Zaheer	Islamic Academy for Peace
Katerina Panagiotidis	West Tatnuck Elementary
Arushi Vora	Sarah W. Gibbons Middle School
Giuliana Bonetti	Dr. Arthur F. Sullivan Middle
Elizabeth Vetzev, Rebecca John	Andover West Middle
Harrison Braman	Lesley Ellis School
Rajarshi Mandal	Wm Diamond Middle
Chloe Abou-Ezzi	Saint Augustine School (Andover)
Pradnya Cowlagi	Oak Middle School
Sapna Malhotra	Eliot, John K-8
Suhrit Ghosh	Oak Middle School
Aditya Naravane	North Attleboro Middle School
Stephen Cronin	St Catherine of Siena Middle School
Srivibhu Piratla	Advanced Math and Science Academy Charter School
Ethan Mort, Shreyas Peddigari, Vikram Hiranandani	Sarah W. Gibbons Middle School
Graham Stoessell, Ian Mauro	Dover-Sherborn Regional Middle School

MSEF

Massachusetts Science
+ Engineering Fair

Serena Akinboboye North Attleboro Middle School

Derek Liu, Elaine Zhang, Jackson Bender Dover-Sherborn Regional Middle School

Chelsea Bateman Boston Latin School

MSEF 2023 Teacher Award: Middle School **Sponsored by Sanofi Specialty Care**

Ms. Saadia Coleman

Dearborn STEM Academy
Boston Public Schools

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