



**Massachusetts Middle School  
Science & Engineering Fair 2022**

**Awards**

Maura Richardson	Cabot Grand Prize	What Color of Light Do Plants Grow Under Best?
Eric Nie	Cabot Grand Prize Runner Up	Self-Driving Security Robot with Face Recognition
Mai Nguyen	First Place, Sanofi Genzyme Award	What are the Effects of Acidity on Plants?
Sohini Saini	First Place, Sanofi Genzyme Award	Growing a Model Plant: What is the Best Color of Light?
Grace Ertel-Zito	First Place, Pauline Lamarche Award	Cleaning Up An Oil Spill
Aarya Wachasunder	First Place, MSEF STEM Award	Finding out which Sports Drink has the Most Electrolytes and How the Drink's Temperature Affects the Amount of Electrolytes
Alice Li	First Place, MSEF STEM Award	How Does the Source of Water Affect the Amount of Lead Contamination?
Clara Harms	First Place, MSEF STEM Award	How do different breathing techniques affect breath recovery time after exercise?
Neha Nagireddy	First Place, MSEF STEM Award	Science Fair-Water Bottles-Nagireddy
Navya Hazarika	First Place, MSEF STEM Award	What are the Effects of Magnetic Fields on Plant Growth?
Elizabeth Hwang, Hazel Violin, Olivia Wong	First Place, MSEF STEM Award	Eco-Friendly vs. Disposable Grocery Bags
Mary Grace Russo	First Place, MSEF STEM Award	How does the temperature of a tennis ball affect the height of its bounce?
Ben Juo, Neal Tandon, Seiji Ting	First Place, MSEF STEM Award	The Effects of Airflow on a Wood Flame
Anuj Gopal, Sriaditya Vaddadi	First Place, MSEF STEM Award	The acceleration of an object on an inclined plane
Sreegouri Vangala	First Place, MSEF STEM Award	Preventing Rust Through The Use of Household Materials
Arnav Josh	Second Place, Cabot Innovation Award	May the Magnetic Force Be With You
Shruti Sivashankar	Second Place, Cabot Innovation Award	Becoming Green With Algae
Matthew Wang, Sean Conner	Second Place, Cabot Innovation Award	Scalable Early Wildfire Detection and Alert System with IOT



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Moira Cosgrove	Second Place, Cabot Innovation Award	What factors affect blood flow rate?
Clare Magdalin, Olivia Benyo, Vivian Lee	Second Place, Cabot Innovation Award	A Study of the Effect the pH of Water has on Radish Plants.
Angad Pannu	Second Place, Cabot Innovation Award	Ultrasonic Driving Aid: Technological Assistance for Everyone
Pranay Kocheta	Second Place, Cabot Innovation Award	Classification of Abnormal Heartbeat using Deep Learning
Elizabeth Cosgrove	Second Place, Cabot Innovation Award	Can plants stop soil erosion?
Bhavishnu Mood	Second Place, Cabot Innovation Award	Which Seed Germinates the Fastest?
Anna St Coeur, Chelsea Bateman	Second Place, Cabot Innovation Award	Chinese Mystery Snails: A Growing Problem
Ryan Groszmann	Second Place, Cabot Innovation Award	Sun Powered Desalination For Farming On The Sea
Vikram Angiras, zaydd ibrahimm	Second Place, Cabot Innovation Award	Water filtration system
Despoina Gianitsanaki	Second Place, Cabot Innovation Award	Green Power Supply
Alexis Dakin	Second Place, Cabot Innovation Award	How does oven temperature affect the area of a shrinky dink?
Frederic Courtin, Isabella Morrill, Sadie Lymneos-Henry	Second Place, Cabot Innovation Award	How does Hydrogen Peroxide affect the Germination of Different Kinds of Seeds
Kate Bourgeois	Second Place, Cabot Innovation Award	How do different font colors affect your ability to locate a color word?
Benjamin Martin	Second Place, Cabot Innovation Award	Reflection on Reflexes
Aditya Naravane	Second Place, Cabot Innovation Award	The Efficiency of Different Sorting Algorithms
Mia Portuondo	Second Place, Cabot Innovation Award	WiFi's Effects on Growing Plants
Anna Outman, Annabelle Cauoette, Caitlin Stimpson	Second Place, Cabot Innovation Award	Water Glass Music



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Mary Coady	Third Place, MSEF Award	How does the color of water affect the freezing and melting points?
Jake Fernandes	Third Place, MSEF Award	How does shutter speed affect an image?
Alden Kuzdzal, Ethan Fiore, Will Bent	Third Place, MSEF Award	Hockey Puck Testing
Lila Cannon	Third Place, MSEF Award	The effect of different amino acids on <i>Saccharomyces cerevisiae</i> growth
Natalie Aldrich	Third Place, MSEF Award	Sunscreen....Always a Hot Topic
Katie Yurof	Third Place, MSEF Award	Which method of timekeeping is closest to your internal clock
Risa Goldfeld	Third Place, MSEF Award	Intuition and Age
Bilal Zaki	Third Place, MSEF Award	Turning Masks Into Air Filters
Liam Flanagan	Third Place, MSEF Award	Red Plants Are Dead Plants
Yuxuan Zhang	Third Place, MSEF Award	Lichens as Bioindicators of Air Pollution
Rayyan Ahmed Siddiq	Third Place, MSEF Award	Reducing Energy Consumption and Global Greenhouse Effect in Refrigeration
Isabella Vespa	Third Place, MSEF Award	Effects of Videogaming on Short-Term Memory and Reaction Time
Liam Jones	Third Place, MSEF Award	How Well Do Masks Work?
Alvira Nair	Third Place, MSEF Award	Microplastics - The Invisible Threat To Nature
Margaret Martin	Third Place, MSEF Award	What is the effect of the amount of baking powder on the height of a cupcake?
Chen-Shin Lin	Third Place, MSEF Award	Are Ice Melts Worth the Cost?
Nichelle Thinagar	Third Place, MSEF Award	Origami Safety Barrier - Designing and testing a safety barrier that is easy to set up, transport, and store.
Xavier Soong	Third Place, MSEF Award	POWER TO THE PEOPLE! Magnetic Field Safety in Our Communities



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Deakan Roberts, Mickeyla Rosa Pietri	Third Place, MSEF Award	Crystal Making
Jocelyne Cole	Third Place, MSEF Award	Well, Tap, or Filtered Water for Plants
Rachel Jackson	Third Place, MSEF Award	Carbon Filter
Karuna Singh	Third Place, MSEF Award	Music and Sleep
Abigail Manning	Third Place, MSEF Award	What is the best angle to put a solar panel to collect the most energy?
Hiba El Fatihi	Third Place, MSEF Award	How does the salinity of water affect a submarine's buoyancy?
Kaya Managni, Tvisha Bansal	Third Place, MSEF Award	The effects of hydrodynamic drag
Salma Saad	Third Place, MSEF Award	Anaerobic Respiration: Yeast Metabolism With and Without Aeration
Nelson Tetteh	Third Place, MSEF Award	Can mycorrhizae replace chemical fertilizers?
Megan Maresca, Sophia DeFillippo	Third Place, MSEF Award	Does Different Color Light Affect Plant Growth?
Divya Jadav, Jack Connell	Third Place, MSEF Award	Cold Cup Challenge: Testing Two Cups
Anwita Wadekar	Third Place, MSEF Award	Beauty or the Beast: Understanding the Durability of Nail Polishes
Mason Nasrallah	Third Place, MSEF Award	Under Pressure (How does the PSI in a football affect how far the football travels?)
Sohum Srivastava	Third Place, MSEF Award	Lanternfly Infestation
Aidan Betournay	Third Place, MSEF Award	Testing What Types Of Impurities Will Be Removed From Fully Grown Sugar Crystals
Sabrina Welch	Third Place, MSEF Award	EcoFriend: Creating a Biodegradable Plastic Alternative Which Repurposes Food Waste and Promotes Biodiversity
Nuha Salam	Third Place, MSEF Award	Turning Soundwaves into Electricity
Sumeyyah Laher	Third Place, MSEF Award	The relationship between pH and Vitamin C in different fruits



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Lucia Mindell	Honorable Mention	A pH-antastical, pH-enomenal pH-eat: The pH of exoplanet oceans
Xiana Xini	Honorable Mention	Do the Myers Briggs Personality Types Correlate to Zodiac Signs?
Ava Palmer, Grace Radzick	Honorable Mention	Finding a biodegradable replacement for plastic straws
Sarah Deane	Honorable Mention	How does the time of day on a sunny day affect the speed of a solar-powered car
Grace McAuley	Honorable Mention	Flours Effects
Robert Duarte	Honorable Mention	How does the material of a baseball bat affect how far it can hit a baseball?
Nathan Ramos	Honorable Mention	Solar Panel Phone Charging
Gracie McGinty	Honorable Mention	Magical Mnemonics
James Bucklaew	Honorable Mention	How does the type of metal affect the amount of corrosion over time?
Mokkshita Arun	Honorable Mention	Hologram Projector
Stephen Cronin	Honorable Mention	Green House Effect
Caroline Couture	Honorable Mention	screen time before bed
Calista Garms	Honorable Mention	The Power of Perception
Ariv Vaidya	Honorable Mention	CREW (Climate Restorative Edible Water): Saving the planet one plastic bottle at a time
Bea Samuels	Honorable Mention	Finding The Biases in Facial Recognition
Mahima Ganesan	Honorable Mention	Effectiveness of UV Block Spray on Different Fabrics
Krish Nath	Honorable Mention	Recognizing Boston Buildings
Annika Nordman, Michelle Ofobi	Honorable Mention	Bath Bombs and Citric Acid
Emily Green	Honorable Mention	Testing the Electrolyte Levels in Drinks
Abdul-Muhaymin Rahman	Honorable Mention	C, A Fantastic Vitamin
Mukilan Dayasankar	Honorable Mention	The Key to Encryption: Is Bigger Better?
Dominic Shaughnessy	Honorable Mention	What is the effect of wearing a mask on your heart rate and blood oxygen level while running?
Alicia Schneider	Honorable Mention	Pacemakers



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Elliot Ramos, Maia Bickford-Loy	Honorable Mention	Do you see the vitamin C?
Eli Moussa , Molly Marks, Shrinivasa Makaram	Honorable Mention	Clarinet Extensions
Lucas Ruiz	Honorable Mention	Short-Term Memory By the Ages
Ishana Saroha	Honorable Mention	Improving Solar Energy's Carbon Footprint
Sadie Cullen, Shay Kozlowski	Honorable Mention	How does growing a crystal in different ways affect its growth
Charlotte Flanders	Honorable Mention	How does pH affect grass growth?
Rajarshi Mandal	Honorable Mention	Analysis of Drinking Water Quality in Selected MA Towns and Development of Machine Learning Models on Drinking Water Datasets
Chloe Abou-Ezzi	Honorable Mention	The Environmental Effects of Different Pollutants on Planaria
Martin Wong	Honorable Mention	Will the color of the material inside affect the amount of heat trapped inside a greenhouse?
Avani Jain	Honorable Mention	Sports Drinks are the best: Myth or Fact?
Samaha Jaffar Ali	Honorable Mention	Breath of Life
Sally Godfrey	Honorable Mention	Memory Persistence in Planaria
Madeline Kim	Honorable Mention	How does the pH soil level affect the amount of carbon that an oyster mushroom absorbs?
Addisyn Castello	Honorable Mention	A Cup that Could Be Better
Lauren Lange	Honorable Mention	How fast can a solar powered car go?
Leila Ohashi	Honorable Mention	Measuring and Treating Contamination in Bodies of Water in the Boston Area
Weian Xue	Honorable Mention	How Plants Slow Down Climate Change
Noor Bhatti	Honorable Mention	Lower the Volume
Jack Milewski	Special Award-Coding With Commitment	Accessible Adventure