



Colorado Science and Engineering Fair

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2022 Colorado Science and Engineering Fair Award Winners

Fort Collins, CO (April 8, 2022) – This year’s Colorado Science and Engineering Fair (CSEF) was held April 7-8, 2022. 215 projects were on display from students in grades 6 through 12, at the Lory Student Center on the Colorado State University – Fort Collins campus.

This year, roughly 350 individual Grand and Special Awards were handed out. Attached is the list of winners.

Five Senior Division CSEF Finalists will be traveling to Atlanta, GA to compete in the Regeneron International Science and Engineering Fair in May. They are:

1st Place: Gitanjali Rao from STEM School Highlands Ranch for the project *A Novel Approach to Early Directional Diagnosis for Prescription Opioid Addiction – Phase II*.

2nd Place: Rhys Hanson from Conifer High School for the project *To Apogee and Beyond*.

3rd Place: Marissa Martinez from Monte Vista High School for the project *A Habitat Assessment Protocol to Determine Suitability for Southwestern Willow Flycatcher Occupancy*.

4th Place: Natalie Pujet from Fairview High School for the project *Modeling Triton’s Seasonal Atmospheric Change Application of the VT3D Model to Triton*.

5th Place: Henry Westfall from Fairview High School for the project *Investigating Political Polarization Through Human Experiments and Agent-Based Simulation*.

The CSEF also presented the Lockheed Martin Teacher of the Year Award to Boone Starr from Flagstaff Academy in Longmont.

Special thanks goes to all of the contributors and sponsors of the 2022 CSEF for their financial and in-kind support of Colorado’s future scientists. This year’s top sponsors (\$2,500 or more) included Bayswater Exploration & Production, Broadcom Foundation, Colorado State University, Verizon, Keysight Technologies, Lockheed Martin, NOAA, Colorado Springs Pediatric Dentistry and Society of Petroleum Engineers, Denver Section.

For a complete list of all of the 2022 CSEF participants, sponsors, Colorado’s Intel ISEF delegates and other CSEF details, please visit the CSEF website at www.csef.colostate.edu.

The Colorado Science and Engineering Fair (CSEF) is an independent, nonprofit corporation. Thanks to the support of generous corporations, foundations, government agencies, and donors who believe in the importance of science education, the CSEF has served Colorado and its students for 67 years.

2022 Colorado Science and Engineering Fair

Grand Awards Press Release

Junior Division Best of CSEF Projects

First Place

Tatum Duvall 8th grade
A Study on Acquired Immunity to Canine Distemper Virus & Canine Parvovirus in Vizsla Dogs
 Thomas MacLaren School Colorado Springs

Second Place

Makenzie Consaul 7th grade
Ready, Set, Grow
 Sargent Junior High School Monte Vista

Third Place

Sophia Zhang 8th grade
A Small Bond Breaking Breaks Boundaries Toward the Solution to Plastic Pollution
 Summit Middle Charter School Boulder

Senior Division Best of CSEF Projects

First Place

Gitanjali Rao 11th grade
A Novel Approach to Early Directional Diagnosis for Prescription Opioid Addiction - Phase II
 STEM School Highlands Ranch

Second Place

Rhys Hanson 11th grade
To Apogee and Beyond
 Conifer High School Conifer

Third Place

Marissa Martinez 11th grade
A Habitat Assessment Protocol to Determine Suitability for Southwestern Willow Flycatcher Occupancy
 Monte Vista High School Monte Vista

Fourth Place

Natalie Pujet 11th grade
Modeling Triton's Seasonal Atmospheric Change: Applications of the VT3D Model to Triton
 Fairview High School Boulder

Fifth Place

Henry Westfall 11th grade
Investigating Political Polarization Through Human Experiments and Agent-Based Simulation
 Fairview High School Boulder

Junior Division Animal Sciences

First Place

Tatum Duvall 8th grade
A Study on Acquired Immunity to Canine Distemper Virus & Canine Parvovirus in Vizsla Dogs
 Thomas MacLaren School Colorado Springs

Second Place

Piper Reitz 6th grade
The Great Crawdad Caper
 Alta Vista Charter School Lamar

Third Place

Mandy Roth 6th grade
Does Jumping Higher Result in a Dog Landing with More Force?
 Flagstaff Academy Longmont

Honorable Mention

Kimberly Pargin 7th grade
 Kandace Pargin 7th grade
Tap the PAP
 Sargent Junior High School Monte Vista

Honorable Mention

Catherine Deacon 7th grade
Sensing A Storm
 Sargent Junior High School Monte Vista

Senior Division Animal Sciences

First Place

Kandice Eastwood 9th grade
Can Crickets Handle the Heat?
 Limon High School Limon

Junior Division Behavioral & Social Sciences

First Place

Julia Ropp 8th grade
The Power of Positivity
 Summit Middle Charter School Boulder

Second Place

Shayla Lewis 8th grade
 Layla Gress 8th grade
How Smell Affects Taste
 Firestone Charter Academy Firestone

Third Place

Kaycee Clark 6th grade
Was It Really Green?
 Wray Elementary School Wray

Senior Division Behavioral & Social Sciences

First Place

Henry Westfall 11th grade
Investigating Political Polarization Through Human Experiments and Agent-Based Simulation
 Fairview High School Boulder

Second Place

Ethan Gavin 11th grade
Measuring the Effects of Sleep Quality on Multi-Modal Cognitive Functions
 The Classical Academy Colorado Springs

Third Place

Serenity Foutz 11th grade
Ethical Controversy of Horse Training
 Wilson Hill Academy Austin

Honorable Mention

Claire Seger 9th grade
Is a Pandemic Academic?
 Monte Vista High School Monte Vista

Junior Division Chemistry & Biochemistry**First Place**

John Butler 8th grade
Smokin' Hot Native Timber
 West Grand Middle School Kremmling

Second Place

Brigid Morin 8th grade
Nothing is Black or White: How Chemicals Affect the Amount of Light that Paint Reflects
 Good Shepherd Catholic School Denver

Third Place

Kyra Griffin 8th grade
The Effectiveness of Over-the-Counter Lactase on Lactose Intolerance
 Sargent Junior High School Monte Vista

Honorable Mention

Maggie Gorton 6th grade
Vanishing Vapors
 Hi-Plains School Seibert

Honorable Mention

Gaby Falter 7th grade
Effect of pH on the Reaction Time of the Enzyme Amylase
 Firestone Charter Academy Firestone

Senior Division Chemistry & Biochemistry**First Place**

Anastasia Diener 11th grade
Sequentially Photostiffening a Hydrogel: Redshifting Tetrazoles for Long-Wavelength Activation
 Fairview High School Boulder

Second Place

Aryan Roy 12th grade
A Novel Liquid Embolic Agent To Treat Brain Aneurysms
 Cherry Creek High School Greenwood Village

Third Place

Shrreya Sethuramalingam 9th grade
A New Water Generator; The Effects of Calcium Chloride and Silica Beads on Humidity Adsorption Rates
 Cherry Creek High School Greenwood Village

Honorable Mention

Shelby Dunlap 9th grade
 Siena Parr 9th grade
The Burning Question: Homemade or Purchased Fire Retardants?
 Dolores High School Dolores

Honorable Mention

Ryan Young 11th grade
The Bismuth Dipper
 Central High School Pueblo

Junior Division Earth & Space Sciences**First Place**

Gabe Clark 8th grade
Paleo-Ornithology: Experimental Taphonomy & Bird Origins
 St. Columba Catholic School Durango

Second Place

Noah Tice 8th grade
Does Elevation Affect the Amount of Alpha and Beta Radiation in the Air?
 Summit Middle Charter School Boulder

Third Place

Tenzing Matt 7th grade
Detecting Solar Activity with a Homemade Magnetometer
 St. Columba Catholic School Durango

Honorable Mention

Aidan Baar 8th grade
Does Soil Type Influence Fertilizers Availability To Plants?
 Liberty School Joes

Senior Division Earth & Space Sciences**First Place**

Natalie Pujet 11th grade
Modeling Triton's Seasonal Atmospheric Change: Applications of the VT3D Model to Triton
 Fairview High School Boulder

Second Place

Allison Inge 12th grade
 Langley Nakari 12th grade
Characterizing the Altitude and Variability of the Martian Mesopause Over the MAVEN Mission
 Monarch High School Louisville

Third Place

Nathaniel Ellis 10th grade
Moon-Opoly: Utilizing In-Situ Resources (ISRU) for the

<i>Construction of Lunar Concrete</i>	Durango High School	Durango
Honorable Mention		
Ada Pence		9th grade
Hannah Shelton		9th grade
<i>Observing the Relationship Between Sand Temperature and Ambient Air Temperature on Different Slopes</i>		
Centauri High School		La Jara

Junior Division Energy

First Place		
Gemma Braza		8th grade
Lilyanne Oldham		8th grade
<i>Bright On! Illuminating the Solar Oven</i>		
Eagleview Middle School		Colorado Springs
Second Place		
Saatwik Das		8th grade
<i>Magnetic Levitation</i>		
Peak to Peak Charter School		Lafayette
Third Place		
Isabella Martinez		6th grade
<i>Bella's Ballerinas</i>		
Corwin International Magnet School		Pueblo
Honorable Mention		
Skyelyn Lefever		7th grade
<i>Homemade Batteries</i>		
Wiggins Middle School		Wiggins
Honorable Mention		
Julian Parker		8th grade
Jaiden Hwang		8th grade
<i>Ooze to Energy</i>		
Challenge School		Denver

Senior Division Energy

First Place		
Wilson Moyer		11th grade
<i>Analyzing Non-Chemical Storage Solutions for the Grid-Scale Energy Problem</i>		
Lakewood High School		Lakewood
Second Place		
Shrey Rohilla		9th grade
<i>Electrify Your Step: Converting Foot Traffic Into Renewable Energy Using Piezoelectric Transducers</i>		
The Classical Academy		Colorado Springs
Third Place		
Chinmay Jayanty		12th grade
<i>Reversing Climate Change with Direct Air Capture</i>		
Sargent High School		Monte Vista

Honorable Mention		
Alec Mallinger		12th grade
Oliver Schmitz		12th grade
Davis Cutforth		12th grade
<i>Hydrogen Fuel Cell Vehicle/Station</i>		
Centaurus High School		Lafayette
Honorable Mention		
Wyatt Guthrie		9th grade
<i>Recharging Car Batteries with Epsom Salt</i>		
West Grand High School		Kremmling

Junior Division Engineering

First Place		
Aanshi Shah		7th grade
<i>Wheel of Fortune: A Novel Approach to Prevent Wastage of Water</i>		
Thunder Vista PK-8 School		Broomfield
Second Place		
Cuinn Archer		6th grade
<i>Automatic Water</i>		
Mancos Middle School		Mancos
Third Place		
Ayush Vispute		7th grade
<i>Dirt Cheap Filters</i>		
Mountain Ridge Middle School		Colorado Springs
Honorable Mention		
Parker Mitchell		6th grade
<i>Spin That Wheel II</i>		
Sargent Elementary School		Monte Vista
Honorable Mention		
Payton Zieske		7th grade
<i>What Foundations Are Best for a House with Settling Problems</i>		
Hope Community Christian Academy		Ignacio

Senior Division Engineering

First Place		
Rhys Hanson		11th grade
<i>To Apogee and Beyond</i>		
Conifer High School		Conifer
Second Place		
Kelly Yang		9th grade
<i>Under Pressure: Piezoresistive Pressure Sensors for Electronic Skin</i>		
Fairview High School		Boulder
Third Place		
Samuel Law		11th grade
<i>The Optimization of the Sonic Fire Extinguisher Using a Conical Collimator</i>		
Legacy High School		Broomfield

Honorable Mention

Teagan Archer 9th grade
The Perfect Pan
 Mancos High School Mancos

Honorable Mention

Zachary Weiner 12th grade
 Zachary Porter 12th grade
Developing an Energy Efficient Home for Climate Control Using Passive Solar and Wind Technology
 Nederland Middle Senior High School Nederland

Junior Division Environmental Sciences**First Place**

Sophia Zhang 8th grade
A Small Bond Breaking Breaks Boundaries Toward the Solution to Plastic Pollution
 Summit Middle Charter School Boulder

Second Place

Mathangi Kurup 7th grade
Phytoremediation of Lead Contaminated Soil Using Brassica Juncea
 Challenge School Denver

Third Place

Saahithi Kasa 8th grade
The Heat of the Matter: Increasing Relative Humidity with Soil Additives
 Challenge School Denver

Honorable Mention

Chayse Rawsky 8th grade
Ponder This: How Wildfire Smoke Affects the Growth and Health of Ponderosa Pine Trees
 Friends School Boulder

Honorable Mention

Cole Potter 6th grade
The Affects of Laundry Greywater on Plant Growth
 St. Columba Catholic School Durango

Senior Division Environmental Sciences**First Place**

Marissa Martinez 11th grade
A Habitat Assessment Protocol to Determine Suitability for Southwestern Willow Flycatcher Occupancy
 Monte Vista High School Monte Vista

Second Place

Elton Cao 10th grade
The Effect of Oil and Gas Production on Tropospheric Ozone and Air Quality Emissions
 Fairview High School Boulder

Third Place

Amrita Saini 10th grade
Using Algae to Make Photosynthetic & Bioluminescent Textiles for Sustainable Lighting & CO2 Removal
 Peak to Peak Charter School Lafayette

Honorable Mention

Emily Hume 9th grade
How Can Algae Be Utilized in Nitrate Reduction?
 Walsh Jr/Sr High School Walsh

Honorable Mention

Amanda Castillo-Lopez 10th grade
Reducing Grass Irrigation Using Sugar Cane Bagasse as Soil Amendment
 Cherry Creek High School Greenwood Village

Junior Division Mathematics & Computer Sciences**First Place**

Helen Wan 7th grade
Color in a Bird's World
 Challenger Middle School Colorado Springs

Second Place

Eli Krause 8th grade
Learn Better With Games
 Flagstaff Academy Longmont

Third Place

Hudson Watkins-Brown 6th grade
Feeding the Sprites
 Colorado Early College Middle School Fort Collins

Honorable Mention

Terra McClure 6th grade
Plinko Fun
 Jefferson Intermediate School Rocky Ford

Honorable Mention

David "Bear" Kent V 7th grade
The Rapid Retriever: Coding a Program To Automate Scraping for Lost or Stolen Items
 Eagleview Middle School Colorado Springs

Senior Division Mathematics & Computer Sciences**First Place**

Morgan Holien 12th grade
Attempting to Define Tetration of Non-Integer Heights
 Monarch High School Louisville

Second Place

Adam Rolander 10th grade
Analyzing the Effects of Non-Generative Augmentation on Automated Classification of Brain Tumors
 Prospect Ridge Academy Broomfield

Third Place

Yicheng "Tony" Teng 11th grade
Convolutional Neural Network Based Gesture Recognition Application System
 Fountain Valley School of Colorado Colorado Springs

Honorable Mention

Ruoxi Hu 10th grade
Quantum Attack on Elliptic Curves
 The Vanguard School Colorado Springs

Junior Division Medicine & Health**First Place**

Lila Mosberger 8th grade
How Ethanol Affects U-87 Glioblastoma Cells
 Summit Middle Charter School Boulder

Second Place

Naomi Kruse 8th grade
The Magic in the Milk: Determining Whether Milk Protein Plays a Role in Antiviral Protection
 Schullandheim Home School Colorado Springs

Third Place

Avienda Schatz-Devine 8th grade
 Tadan Helm 8th grade
 Phoenix Borten 8th grade
Go with the Flow: The Relationship Between Frequency and Brainwaves
 Friends School Boulder

Honorable Mention

Chloë Pennington 8th grade
TATAA Celiac! A Proposed Model of Celiac DNA Isolation, Intervention and Cure
 Friends School Boulder

Honorable Mention

Grady Wilson 8th grade
Electrifying Electrolytes
 Wiggins Middle School Wiggins

Senior Division Medicine & Health**First Place**

Gitanjali Rao 11th grade
A Novel Approach to Early Directional Diagnosis for Prescription Opioid Addiction - Phase II
 STEM School Highlands Ranch

Second Place

Aditi Avinash 10th grade
Quantitative Methods to Analyze the Synergism of Digestive Enzymes for Gluten Breakdown
 Rock Canyon High School Highlands Ranch

Third Place

Daniel Lin 11th grade
Discovering Biomarkers for Breast Cancer Subtypes with Gene Expression Data Using Machine Learning
 Fairview High School Boulder

Honorable Mention

Fatima Duran 12th grade
Shining Lights: How Curing Lights Polymerize Different Thicknesses of Pigmented Dental Fillings
 Yuma High School Yuma

Junior Division Microbiology & Molecular Biology**First Place**

Sophie May-Ostendorp 8th grade
E. Coli Elimination
 St. Columba Catholic School Durango

Second Place

Gryffin Lawrence 7th grade
Toothpaste Trauma: The Relationship Between Toothpaste and Change in Amount of Bacteria on Teeth
 Friends School Boulder

Third Place

Scarlett Paulson 7th grade
 Jaden DePue 7th grade
Germ Busters: Evaluating the Effectiveness of Disinfection Methods
 Wray Jr/Sr High School Wray

Honorable Mention

Augustus Gdanitz 8th grade
Effect of Microbial Population on Soil Conductivity
 Wray Jr/Sr High School Wray

Honorable Mention

Dannica Ward 8th grade
A Study of Yeast Strains and Sourdough Properties
 Challenge School Denver

Senior Division Microbiology & Molecular Biology**First Place**

Margaret Arthur 10th grade
Ab-GAN: A Novel Approach to Create 3D Antibody Paratope Models Using Antigen Epitopes
 Fairview High School Boulder

Second Place

Clara Kursinski 12th grade
Analyzing Ancient Mitochondrial DNA in the Caribbean to Infer Human Migration Patterns
 Fairview High School Boulder

Third Place

Chloe Hindes 12th grade
Reduce, Reuse, Digest? Optimizing pETase Function within K-12 E. coli
 Monte Vista High School Monte Vista

Honorable Mention

Emma Seliskar 12th grade
Bee Yeast
 Evergreen High School Evergreen

Honorable Mention

Armaan Gill 9th grade
Using the Plasmid pACYC184 To Make a Novel Fluorescent Tracking System
 Lamar High School Lamar

Junior Division Physics

First Place

Haydan Drullinger 8th grade
The Effects of Droplets Size from Irrigation Sprinklers on Evaporation Rates
 Liberty School Joes

Second Place

Mary Fernandez 7th grade
No More Noise!: How Cotton Density Affects Sound Level in Earmuffs
 Good Shepherd Catholic School Denver

Third Place

Sky Richards 8th grade
Candy Wars
 Hi-Plains School Seibert

Honorable Mention

Will Walker 7th grade
Pitch Perfect
 Sargent Junior High School Monte Vista

Senior Division Physics

First Place

Nallely Saucedo 12th grade
Blasting Through Gelatin
 Brush High School Brush

Second Place

Skylar Abernathy 12th grade
 Bernard Coleman 12th grade
 Noah Rand 12th grade
Electromagnetically Driven Surgical Catheters and the Physics That Guides Them
 Monarch High School Louisville

Third Place

Bailey Link 11th grade
 Giulia Roccasalva 11th grade
Comparing the Leidenfrost Effect on Distilled Water and Ethanol
 Brush High School Brush

Honorable Mention

Evan Roberts 10th grade
 Bridger Lynch 10th grade
The Effect of Dimple Pattern on a Golf Balls Distance
 Yuma High School Yuma

Junior Division Plant Sciences

First Place

Makenzie Consaul 7th grade
Ready, Set, Grow
 Sargent Junior High School Monte Vista

Second Place

Karson Harbison 8th grade
Magnets Maximize Plant Growth
 St. Columba Catholic School Durango

Third Place

Miles Snow 8th grade
Magnificent Musical Plants
 St. Columba Catholic School Durango

Honorable Mention

Zach Schreurs 8th grade
Bean Growth on the Red Planet: Yay or Nay?
 Firestone Charter Academy Firestone

Senior Division Plant Sciences

First Place

Denton Peil 10th grade
Mycorrhizal Fungi (Rhizophagus intraradices) and Its Effect on the Height and Biomass of Marigolds
 Yuma High School Yuma

Second Place

Carlos Ochoa-Marquez 11th grade
MycMadness: The Effects Mycorrhiza has on Solanum tuberosum, Cucurbita pepo, and Medicago sativa
 Monte Vista High School Monte Vista

2022 Colorado Science and Engineering Fair

Special Awards Press Release

Colorado Science & Engineering Fair Awards

Elemer Bernath Memorial Technical Writing Award

Kyra Griffin 8th grade
 certificate
 Sargent Junior High School Monte Vista
The Effectiveness of Over-the-Counter Lactase on Lactose Intolerance

Ernest Kolesnikov 7th grade
 Toshiro Nagafuji 7th grade
 certificate
 Fox Ridge Middle School Aurora
How Different Substrates Affect Bioplastics

Naomi Kruse 8th grade
 certificate, \$100
 Schullandheim Home School Colorado Springs
The Magic in the Milk: Determining Whether Milk Protein Plays a Role in Antiviral Protection

Ralph Desch Memorial Technical Writing Award

Henry Westfall 11th grade
 certificate
 Fairview High School Boulder
Investigating Political Polarization Through Human Experiments and Agent-Based Simulation

Daniel Lin 11th grade
 certificate
 Fairview High School Boulder
Discovering Biomarkers for Breast Cancer Subtypes with Gene Expression Data Using Machine Learning

Marissa Martinez 11th grade
 certificate, \$100
 Monte Vista High School Monte Vista
A Habitat Assessment Protocol to Determine Suitability for Southwestern Willow Flycatcher Occupancy

Junior Division Student Choice Award

Cuinn Archer 6th grade
 certificate, \$100
 Mancos Middle School Mancos
Automatic Water

Senior Division Student Choice Award

Rhys Hanson 11th grade
 certificate, \$100
 Conifer High School Conifer
To Apogee and Beyond

Poster Art Contest Award

Aanshi Shah 7th grade
 certificate, \$100
 Thunder Vista PK-8 School Broomfield
Wheel of Fortune: A Novel Approach to Prevent Wastage of Water

Pioneers of Science Awards

Dian Fossey Award

Piper Reitz 6th grade
 certificate, \$50
 Alta Vista Charter School Lamar
The Great Crawdad Caper

Arthur Askin Award

Lakshmi Thanikasalam 7th grade
 certificate, \$50
 Flagstaff Academy Longmont
Capillary Action: Investigation and Empirical Modeling

Burt Ratan Award

Julian Parker 8th grade
 Jaiden Hwang 8th grade
 certificate, \$50
 Challenge School Denver
Ooze to Energy

Donna Strickland Award

Carson Stone 6th grade
 Drake Hass 6th grade
 certificate, \$50
 Brush Middle School Brush
Don't Drag Me Down: The Effect of Flap Position on Paper Airplane Flight

Elizabeth Blackburn Award

Gryffin Lawrence 7th grade
 certificate, \$50
 Friends School Boulder
Toothpaste Trauma: The Relationship Between Toothpaste and Change in Amount of Bacteria on Teeth

Francis Arnold Award

Jacob Kossler 6th grade
 certificate, \$50
 Turner Middle School Berthoud
Laminar or Turbulent Flow?

Jack Kilby Award

David "Bear" Kent V 7th grade
certificate, \$50
Eagleview Middle School Colorado Springs
*The Rapid Retriever: Coding a Program To Automate
Scraping for Lost or Stolen Items*

James Peebles Award

Makai Chambers 6th grade
certificate, \$50
Hoehne School Hoehne
Discovering an Exoplanet

James Patrick Allison Award

Dannica Ward 8th grade
certificate, \$50
Challenge School Denver
A Study of Yeast Strains and Sourdough Properties

John Goodenough

Lexi Zimmerman 8th grade
certificate, \$50
Wiggins Middle School Wiggins
Extract DNA

Leon Festinger Award

Grace Elizabeth Jones 6th grade
certificate, \$50
Wray Elementary School Wray
Dog Treats

Luther Burbank Award

Teagan Bruchez 7th grade
certificate, \$50
West Grand Middle School Kremmling
Soil Matters!

Mary Ainsworth Award

Berkley Ulibarri 7th grade
certificate, \$50
St. John the Evangelist Catholic School Loveland
The Power of Suggestion

Steven Chu Award

Chayton Feaux 8th grade
certificate, \$50
Peak to Peak Charter School Lafayette
*Ballistics Testing: The Effect of Temperature on Projectile
Penetration Into 10% Ballistics Gel*

Wangari Muta Maathai Award

Cole Potter 6th grade
certificate, \$50
St. Columba Catholic School Durango
The Affects of Laundry Greywater on Plant Growth

Military Awards

United States Navy and Marine Corps

Office of Naval Research Award

Reece Mundell 8th grade
certificate, ONR medallion
Walsh Jr/Sr High School Walsh
Blood Types on the Symptoms of COVID-19

Eli Krause 8th grade
certificate, ONR medallion
Flagstaff Academy Longmont
Learn Better With Games

Isabella Delhiero 8th grade
certificate, ONR medallion
Challenge School Denver
*How Can the Energy Created From A Solenoid Engine Be
Used To Create Electricity To Power Things?*

Yicheng "Tony" Teng 11th grade
certificate, ONR medallion, & \$50 gift card (response
required from winner to process payment)
Fountain Valley School of Colorado Colorado Springs
*Convolutional Neural Network Based Gesture Recognition
Application System*

Braxton Dennison 10th grade
certificate, ONR medallion, & \$50 gift card (response
required from winner to process payment)
Mancos High School Mancos
Home Made Hydrogen Fuel Cell

Rhys Hanson 11th grade
certificate, ONR medallion, & \$50 gift card (response
required from winner to process payment)
Conifer High School Conifer
To Apogee and Beyond

Colorado Organizational Awards

Air & Waste Management Association

Rocky Mountain States Section

Air & Waste Management Award

Cole Potter 6th grade
certificate, \$100
St. Columba Catholic School Durango
The Affects of Laundry Greywater on Plant Growth

Rachel Rademacher 8th grade
certificate, \$150
Firestone Charter Academy Firestone
Effects of Fertilizer on Algae Growth

Amanda Castillo-Lopez 10th grade
certificate, \$100
Cherry Creek High School Greenwood Village
*Reducing Grass Irrigation Using Sugar Cane Bagasse as
Soil Amendment*

Elton Cao 10th grade
certificate, \$150
Fairview High School Boulder
*The Effect of Oil and Gas Production on Tropospheric
Ozone and Air Quality Emissions*

American Association of University Women
AAUW CO Award for Women in STEM

Autumn Schulz 8th grade
certificate, \$100
Ignacio Middle School Ignacio
Insulating with Recycled Materials

Ruoxi Hu 10th grade
certificate, \$100
The Vanguard School Colorado Springs
Quantum Attack on Elliptic Curves

American Industrial Hygiene Association
Rocky Mountain Section

*Excellence in Protection of Occupational Health and
Safety*

Noah Tice 8th grade
certificate, \$150
Summit Middle Charter School Boulder
*Does Elevation Affect the Amount of Alpha and Beta
Radiation in the Air?*

Samuel Law 11th grade
certificate, \$150
Legacy High School Broomfield
*The Optimization of the Sonic Fire Extinguisher Using a
Conical Collimator*

American Institute of Aeronautics & Astronautics
Rocky Mountain Section

AIAA Aeronautics and Astronautics Award

Jacob Kossler 6th grade
certificate, Arduino Starter kits (\$100 value)
Turner Middle School Berthoud
Laminar or Turbulent Flow?

Tenzing Matt 7th grade
certificate, Arduino Starter kits (\$100 value)
St. Columba Catholic School Durango
Detecting Solar Activity with a Homemade Magnetometer

Natalie Pujet 11th grade
certificate, Arduino Starter kits (\$100 value)
Fairview High School Boulder
*Modeling Triton's Seasonal Atmospheric Change:
Applications of the VT3D Model to Triton*

Rhys Hanson 11th grade
certificate, Arduino Starter kits (\$100 value)
Conifer High School Conifer
To Apogee and Beyond

American Institute of Chemical Engineers
Rocky Mountain Section
Excellence in Chemical Engineering Award

Haydan Drullinger 8th grade
certificate, \$150
Liberty School Joes
*The Effects of Droplets Size from Irrigation Sprinklers on
Evaporation Rates*

Jacob Kossler 6th grade
certificate, \$200
Turner Middle School Berthoud
Laminar or Turbulent Flow?

Elia Lowe 9th grade
Samantha Abate 9th grade
certificate, \$150
Dolores High School Dolores
Eco-friendly vs Store-bought Water Repellent

Chinmay Jayanty 12th grade
certificate, \$200
Sargent High School Monte Vista
Reversing Climate Change with Direct Air Capture

American Institute of Professional Geologists
AIPG Certificate of Excellence in the Geosciences

Pace Wallace 6th grade
certificate, \$75
Las Animas Junior High School Las Animas
Wind Erosion

Gabe Clark 8th grade
certificate, \$150
St. Columba Catholic School Durango
*Paleo-Ornithology: Experimental Taphonomy & Bird
Origins*

Grace Wahl 10th grade
certificate, \$75
West Grand High School Kremmling
Firewater

Ada Pence 9th grade
Hannah Shelton 9th grade
certificate, \$150
Centauri High School La Jara
*Observing the Relationship Between Sand Temperature and
Ambient Air Temperature on Different Slopes*

**American Statistical Association,
Colorado/Wyoming Chapter**
David Young Memorial Award

Margaret Arthur 10th grade
certificate, \$200, student membership in the American
Statistical Association, acknowledgment at chapter spring
meeting and on chapter web site (both divisions)
Fairview High School Boulder
*Ab-GAN: A Novel Approach to Create 3D Antibody
Paratope Models Using Antigen Epitopes*

Amrita Saini 10th grade
certificate, \$200, student membership in the American
Statistical Association, acknowledgment at chapter spring
meeting and on chapter web site (both divisions)
Peak to Peak Charter School Lafayette
*Using Algae to Make Photosynthetic & Bioluminescent
Textiles for Sustainable Lighting & CO2 Removal*

**American Vacuum Society
Rocky Mountain Chapter**

*Excellence in Physical Sciences & Engineering
Award*

Cooper Manganaro 7th grade
\$50, \$50 matching award to teacher/sponsor
Escalante Middle School Durango
*Was Isaac Newton Correct? Testing the Classic Equation
($F=MxA$) on a Pool Table*

Jacob Kossler 6th grade
\$100, \$100 matching award to teacher/sponsor
Turner Middle School Berthoud
Laminar or Turbulent Flow?

Braxton Dennison 10th grade
\$50, \$50 matching award to teacher/sponsor
Mancos High School Mancos
Home Made Hydrogen Fuel Cell

Samuel Law 11th grade
\$100, \$100 matching award to teacher/sponsor
Legacy High School Broomfield
*The Optimization of the Sonic Fire Extinguisher Using a
Conical Collimator*

ASM International

ASM Materials Education Foundation Award

Payton Zieske 7th grade
certificate, \$100
Hope Community Christian Ignacio
Academy
*What Foundations Are Best for a House with Settling
Problems*

Nathaniel Ellis 10th grade
certificate, \$150
Durango High School Durango
*Moon-Opoly: Utilizing In-Situ Resources (ISRU) for the
Construction of Lunar Concrete*

Broadcom Foundation

Broadcom Coding with Commitment Award

Helen Wan 7th grade
certificate, \$250 gift card, Raspberry Pi Foundation Official
RP 400 Personal Computer Kit (response required to
receive)
Challenger Middle School Colorado Springs
Color in a Bird's World

Colorado Association of Science Teachers

CAST Award

Sophie May-Ostendorp 8th grade
certificate, \$100
St. Columba Catholic School Durango
E. Coli Elimination

Zach Schreurs 8th grade
certificate, \$100
Firestone Charter Academy Firestone
Bean Growth on the Red Planet: Yay or Nay?

Ada Pence 9th grade
Hannah Shelton 9th grade
certificate, \$100
Centauri High School La Jara
*Observing the Relationship Between Sand Temperature and
Ambient Air Temperature on Different Slopes*

Amanda Castillo-Lopez 10th grade
certificate, \$100
Cherry Creek High School Greenwood Village
*Reducing Grass Irrigation Using Sugar Cane Bagasse as
Soil Amendment*

Colorado Biology Teacher's Association

CBTA Best Biology Project

Naomi Kruse 8th grade
certificate, \$50
Schullandheim Home School Colorado Springs
*The Magic in the Milk: Determining Whether Milk Protein
Plays a Role in Antiviral Protection*

Tatum Duvall 8th grade
certificate, \$100
Thomas MacLaren School Colorado Springs
*A Study on Acquired Immunity to Canine Distemper Virus
& Canine Parvovirus in Vizsla Dogs*

Marissa Martinez 11th grade
certificate, \$50
Monte Vista High School Monte Vista
*A Habitat Assessment Protocol to Determine Suitability for
Southwestern Willow Flycatcher Occupancy*

Gitanjali Rao 11th grade
certificate, \$100
STEM School Highlands Ranch
A Novel Approach to Early Directional Diagnosis for Prescription Opioid Addiction - Phase II

Colorado Bioscience Institute
BioGENEius Challenge

Gitanjali Rao 11th grade
invitation to the National and International BioGENEius Challenge in person in San Diego June 2022 for the opportunity for scholarships and other prizes
STEM School Highlands Ranch
A Novel Approach to Early Directional Diagnosis for Prescription Opioid Addiction - Phase II

Colorado Chemistry Teachers Association
CCTA Chemistry Award

Lucas Hickam 7th grade
Ruben Hatcher 7th grade
certificate, \$150
West Grand Middle School Kremmling
Integrity of Water Bottles

Shelby Dunlap 9th grade
Siena Parr 9th grade
certificate, \$150
Dolores High School Dolores
The Burning Question: Homemade or Purchased Fire Retardants?

Colorado Environmental Health Association
Environmental Health Award

Addison Roepke 8th grade
certificate, \$75
Sargent Junior High School Monte Vista
Swimming in Pharmaceuticals: The Effect of Over-the-Counter Medications on Daphnia Magna

Emily Hume 9th grade
certificate, \$150, invitation to exhibit at the CEHA Annual Educational Conference (valued at \$400)
Walsh Jr/Sr High School Walsh
How Can Algae Be Utilized in Nitrate Reduction?

Colorado Foundation for Agriculture
Jack Fenwick Award for Agricultural Sciences

Augustus Gdanitz 8th grade
certificate, \$50
Wray Jr/Sr High School Wray
Effect of Microbial Population on Soil Conductivity

Kimberly Pargin 7th grade
Kandace Pargin 7th grade
certificate, \$50
Sargent Junior High School Monte Vista
Tap the PAP

Denton Peil 10th grade
certificate, \$50
Yuma High School Yuma
Mycorrhizal Fungi (Rhizophagus intraradices) and Its Effect on the Height and Biomass of Marigolds

Taylin Harthun 9th grade
certificate, \$50
West Grand High School Kremmling
Keep Your Cool

Colorado Medical Society
CMS Education Foundation Award

Chloë Pennington 8th grade
certificate, \$100, invitation to the winners and parents to exhibit at the CMS Annual Meeting and attendance at the Presidential Inaugural Dinner w/paid overnight stay
Friends School Boulder
TATAA Celiac! A Proposed Model of Celiac DNA Isolation, Intervention and Cure

Gitanjali Rao 11th grade
certificate, \$100, invitation to the winners and parents to exhibit at the CMS Annual Meeting and attendance at the Presidential Inaugural Dinner w/paid overnight stay
STEM School Highlands Ranch
A Novel Approach to Early Directional Diagnosis for Prescription Opioid Addiction - Phase II

Colorado Mineral Society
Best Earth Science Award

Noah Tice 8th grade
certificate, \$35, mineral specimen, book
Summit Middle Charter School Boulder
Does Elevation Affect the Amount of Alpha and Beta Radiation in the Air?

Gabe Clark 8th grade
certificate, \$50, mineral specimen, book
St. Columba Catholic School Durango
Paleo-Ornithology: Experimental Taphonomy & Bird Origins

Ada Pence 9th grade
Hannah Shelton 9th grade
certificate, \$50, mineral specimen, book
Centauri High School La Jara
Observing the Relationship Between Sand Temperature and Ambient Air Temperature on Different Slopes

Colorado Mycological Society
Excelsior in Mycological Research Award

Cameron Wolkow 8th grade
certificate, \$25, CMS membership for 2022, signed copy of Vera Evenson's "Rocky Mountain Mushrooms"
North Middle School Colorado Springs
Mycelium Degraded Paper Products Faster Than Compost

Emma Seliskar 12th grade
certificate, \$50, CMS membership for 2022, signed copy of
Vera Evenson's "Rocky Mountain Mushrooms"
Evergreen High School Evergreen
Bee Yeast

Carlos Ochoa-Marquez 11th grade
certificate, \$100, CMS membership for 2022, signed copy
of Vera Evenson's "Rocky Mountain Mushrooms"
Monte Vista High School Monte Vista
*MycMadness: The Effects Mycorrhiza has on Solanum
tuberosum, Cucurbita pepo, and Medicago sativa*

Colorado Native Plant Society

Colorado Native Plant Society Award

Chayse Rawsky 8th grade
certificate, \$100, 1-year student membership
Friends School Boulder
*Ponder This: How Wildfire Smoke Affects the Growth and
Health of Ponderosa Pine Trees*

Marissa Martinez 11th grade
certificate, \$200, 1-year student membership
Monte Vista High School Monte Vista
*A Habitat Assessment Protocol to Determine Suitability for
Southwestern Willow Flycatcher Occupancy*

Colorado Scientific Society

Excellence in Earth Science Award

Mathangi Kurup 7th grade
certificate, \$50
Challenge School Denver
*Phytoremediation of Lead Contaminated Soil Using
Brassica Juncea*

Gabe Clark 8th grade
certificate, \$75
St. Columba Catholic School Durango
*Paleo-Ornithology: Experimental Taphonomy & Bird
Origins*

Abigail Ross 11th grade
certificate, \$75
Lamar High School Lamar
Detecting Flares (Part 4)

Elton Cao 10th grade
certificate, \$100
Fairview High School Boulder
*The Effect of Oil and Gas Production on Tropospheric
Ozone and Air Quality Emissions*

Colorado Section of the American Chemical Society

American Chemical Society Awards

Adaline Pedersen 7th grade
certificate, \$50
West Grand Middle School Kremmling
The Charcoal Challenge

Taryn Wickham 8th grade
Jocelyn Middlemist 8th grade
certificate, \$75
Brush Middle School Brush
Quandary With Your Laundry

Kyra Griffin 8th grade
certificate, \$100
Sargent Junior High School Monte Vista
*The Effectiveness of Over-the-Counter Lactase on Lactose
Intolerance*

Shelby Dunlap 9th grade
Siena Parr 9th grade
certificate, \$50
Dolores High School Dolores
*The Burning Question: Homemade or Purchased Fire
Retardants?*

Anastasia Diener 11th grade
certificate, \$75
Fairview High School Boulder
*Sequentially Photostiffening a Hydrogel: Redshifting
Tetrazoles for Long-Wavelength Activation*

Nicholai Hagemann 12th grade
certificate, \$100
Sand Creek High School Colorado Springs
*Isolation Extraction and Identification of Unknown in
Friedel-Crafts Acylation of Biphenyl*

Colorado Springs Pediatric Dentistry

Excellence in Oral Health Award

Joshua Wells 7th grade
certificate, \$100
Weldon Valley School Weldona
"UV Spotlight!": What Is Really on Your Toothbrush?

Fatima Duran 12th grade
certificate, \$100
Yuma High School Yuma
*Shining Lights: How Curing Lights Polymerize Different
Thicknesses of Pigmented Dental Fillings*

Colorado State University

College of Agricultural Sciences

Innovations in the Science of Agriculture Award

Joellianna Rohde 8th grade
certificate, \$500
Ignacio Middle School Ignacio
Grow with the Flow

Carlos Ochoa-Marquez 11th grade
certificate, \$500
Monte Vista High School Monte Vista
*MycMadness: The Effects Mycorrhiza has on Solanum
tuberosum, Cucurbita pepo, and Medicago sativa*

**Colorado State University
Colorado Natural Heritage Program**

*Colorado Natural Heritage Program Conservation
Award*

Anneke Ausema 8th grade
pint glass, handlens, and a Wetlands of Colorado
Guidebook

Colorado Early College Middle School Fort Collins
*Marsh vs Mower: A Study in How Human Disturbance
Affects Biodiversity*

Marissa Martinez 11th grade
pint glass, handlens, and a Wetlands of Colorado
Guidebook

Monte Vista High School Monte Vista
*A Habitat Assessment Protocol to Determine Suitability for
Southwestern Willow Flycatcher Occupancy*

**Colorado State University
Department of Chemistry**
Excellence in Chemistry Award

John Butler 8th grade
certificate, \$100
West Grand Middle School Kremmling
Smokin' Hot Native Timber

Shrreya Sethuramalingam 9th grade
certificate, \$100
Cherry Creek High School Greenwood Village
*A New Water Generator; The Effects of Calcium Chloride
and Silica Beads on Humidity Adsorption Rates*

**Colorado State University
Department of Horticulture & Landscape
Architecture**

Excellence in Horticulture Award

Makenzie Consaul 7th grade
certificate, \$100
Sargent Junior High School Monte Vista
Ready, Set, Grow

Karson Harbison 8th grade
certificate, \$100
St. Columba Catholic School Durango
Magnets Maximize Plant Growth

Carlos Ochoa-Marquez 11th grade
certificate, \$100
Monte Vista High School Monte Vista
*MycMadness: The Effects Mycorrhiza has on Solanum
tuberosum, Cucurbita pepo, and Medicago sativa*

Denton Peil 10th grade
certificate, \$100
Yuma High School Yuma
*Mycorrhizal Fungi (Rhizophagus intraradices) and Its
Effect on the Height and Biomass of Marigolds*

Colorado State University, Energy Institute

Excellence in Energy Achievement Award

Wilson Moyer 11th grade
certificate, \$250
Lakewood High School Lakewood
*Analyzing Non-Chemical Storage Solutions for the Grid-
Scale Energy Problem*

Colorado Veterinary Medical Association
Veterinary Science Award

Tatum Duvall 8th grade
certificate, \$100
Thomas MacLaren School Colorado Springs
*A Study on Acquired Immunity to Canine Distemper Virus
& Canine Parvovirus in Vizsla Dogs*

Kandice Eastwood 9th grade
certificate, \$100
Limon High School Limon
Can Crickets Handle the Heat?

Colorado's Electric Cooperatives
The Colorado EnergyWise Award

Skyelyn Lefever 7th grade
certificate, \$75
Wiggins Middle School Wiggins
Homemade Batteries

Saatwik Das 8th grade
certificate, \$175
Peak to Peak Charter School Lafayette
Magnetic Levitation

Chinmay Jayanty 12th grade
certificate, \$75
Sargent High School Monte Vista
Reversing Climate Change with Direct Air Capture

Alec Mallinger 12th grade
Oliver Schmitz 12th grade
Davis Cutforth 12th grade
certificate, \$175
Centaurus High School Lafayette
Hydrogen Fuel Cell Vehicle/Station

Colorado-Wyoming Society of American Foresters
Excellence in Forestry Research Award

Juakin Sawatzky 7th grade
certificate, \$200
Liberty School Joes
The Effects of Pollution on Freshwater Invertebrates

Marissa Martinez 11th grade
certificate, \$200
Monte Vista High School Monte Vista
*A Habitat Assessment Protocol to Determine Suitability
for Southwestern Willow Flycatcher Occupancy*

Department of Commerce, Boulder Laboratories

Award for Excellence in Science and Engineering

Nicholai Hagemann 12th grade
plaque, alternate for a summer internship at the DOC labs
in Boulder
Sand Creek High School Colorado Springs
*Isolation Extraction and Identification of Unknown in
Friedel-Crafts Acylation of Biphenyl*

Allison Inge 12th grade
Langley Nakari 12th grade
plaque, summer internship at the DOC labs in Boulder
Monarch High School Louisville
*Characterizing the Altitude and Variability of the Martian
Mesopause Over the MAVEN Mission*

Frank Armbruster Foundation

Armbruster Memorial Award

Cole Potter 6th grade
certificate, \$50
St. Columba Catholic School Durango
The Affects of Laundry Greywater on Plant Growth

Gromko Family

Gerald Gromko Memorial Award

Geo Raguraman 10th grade
certificate, \$200
Discovery Canyon High School Colorado Springs
*InviziEye: Design and implementation of an Assistive Suit
for Blind and Visually Impaired People*

Human Factors and Ergonomics Society

Rocky Mountain Chapter

Excellence in Human Factors & Ergonomics Award

Geo Raguraman 10th grade
certificate, \$100
Discovery Canyon High School Colorado Springs
*InviziEye: Design and implementation of an Assistive Suit
for Blind and Visually Impaired People*

Institute of Electrical and Electronics Engineers

High Plains Section

IEEE Award

Jakoby Ross 7th grade
certificate, \$100 cash card
Monte Vista Middle School Monte Vista
Gear Down For What 2.0

Geo Raguraman 10th grade
certificate, \$150 cash card
Discovery Canyon High School Colorado Springs
*InviziEye: Design and implementation of an Assistive Suit
for Blind and Visually Impaired People*

Little Shop of Physics

Matthew McCausland Memorial Award

Makai Chambers 6th grade
certificate, backpack
Hoehne School Hoehne
Discovering an Exoplanet

Skyelyn Lefever 7th grade
certificate, backpack
Wiggins Middle School Wiggins
Homemade Batteries

Alyson Buchanan 8th grade
Lillie Cordova 8th grade
Alliana Corchado 8th grade
certificate, backpack
Fulton Heights Charter Academy Pueblo
Clean Rivers: Freshwater Cleaning Device

Mary Fernandez 7th grade
certificate, backpack
Good Shepherd Catholic School Denver
*No More Noise!: How Cotton Density Affects Sound Level
in Earmuffs*

Parker Mitchell 6th grade
certificate, science equipment
Sargent Elementary School Monte Vista
Spin That Wheel II

Isabella Martinez 6th grade
certificate, science equipment
Corwin International Magnet School Pueblo
Bella's Ballerinas

Keira LaRose 9th grade
Maya Lowe 9th grade
certificate, backpack
Dolores High School Dolores
*The Sticky Solution: Water Soluble, Eco-friendly Fruit
Stickers*

Wyatt Guthrie 9th grade
certificate, science equipment
West Grand High School Kremmling
Recharging Car Batteries with Epsom Salt

Geo Raguraman 10th grade
certificate, science equipment
Discovery Canyon High School Colorado Springs
*InviziEye: Design and implementation of an Assistive Suit
for Blind and Visually Impaired People*

Lockheed Martin

Lockheed Martin Aerospace Award

Jacob Kossler 6th grade
certificate, \$150
Turner Middle School Berthoud
Laminar or Turbulent Flow?

Allison Inge 12th grade
Langley Nakari 12th grade
certificate, \$350
Monarch High School Louisville
Characterizing the Altitude and Variability of the Martian Mesopause Over the MAVEN Mission

National Centers for Environmental Information

NCEI Award of Scientific Achievement

Cameron Wolkow 8th grade
certificate, anonymously donated award
North Middle School Colorado Springs
Mycelium Degraded Paper Products Faster Than Compost

National Geographic Society

That's Geography - Cultivating Empathy for the Earth Award

Amrita Saini 10th grade
certificate, \$100 (response required from winner to process)
Peak to Peak Charter School Lafayette
Using Algae to Make Photosynthetic & Bioluminescent Textiles for Sustainable Lighting & CO2 Removal

National Security Agency, Colorado Section

NSA STEM Award

Adam Rolander 10th grade
Cyber Bot robot
Prospect Ridge Academy Broomfield
Analyzing the Effects of Non-Generative Augmentation on Automated Classification of Brain Tumors

Samuel Law 11th grade
3D pen
Legacy High School Broomfield
The Optimization of the Sonic Fire Extinguisher Using a Conical Collimator

Abigail Ross 11th grade
3D printer
Lamar High School Lamar
Detecting Flares (Part 4)

Platte River Power Authority

PRPA Special Award for Energy Efficiency and Innovation

Isabella Delhierro 8th grade
certificate, \$100
Challenge School Denver
How Can the Energy Created From A Solenoid Engine Be Used To Create Electricity To Power Things?

Wilson Moyer 11th grade
certificate, \$150
Lakewood High School Lakewood
Analyzing Non-Chemical Storage Solutions for the Grid-Scale Energy Problem

PRPA Special Award for Environmental Responsibility

Gemma Braza 8th grade
Lilyanne Oldham 8th grade
certificate, \$100
Eagleview Middle School Colorado Springs
Bright On! Illuminating the Solar Oven

Anna Lucas 11th grade
certificate, \$150
Colorado Preparatory Academy Westminster
How Half the Water in Your Toilet Flush Could Power Your Home

Rocky Mountain Association of Geologists

Excellence in Earth Science Award

Saahithi Kasa 8th grade
certificate, \$200
Challenge School Denver
The Heat of the Matter: Increasing Relative Humidity with Soil Additives

Gabe Clark 8th grade
certificate, \$300
St. Columba Catholic School Durango
Paleo-Ornithology: Experimental Taphonomy & Bird Origins

Elton Cao 10th grade
certificate, \$200
Fairview High School Boulder
The Effect of Oil and Gas Production on Tropospheric Ozone and Air Quality Emissions

Ada Pence 9th grade
Hannah Shelton 9th grade
certificate, \$300
Centauri High School La Jara
Observing the Relationship Between Sand Temperature and Ambient Air Temperature on Different Slopes

Rocky Mountain Water Environment Association

Water Research Award

Aanshi Shah 7th grade
certificate, \$200
Thunder Vista PK-8 School Broomfield
Wheel of Fortune: A Novel Approach to Prevent Wastage of Water

Ayush Vispute 7th grade
certificate, \$400
Mountain Ridge Middle School Colorado Springs
Dirt Cheap Filters

Grace Wahl 10th grade
certificate, \$200
West Grand High School Kremmling
Firewater

Shrreya Sethuramalingam 9th grade
certificate, \$400
Cherry Creek High School Greenwood Village
*A New Water Generator; The Effects of Calcium Chloride
and Silica Beads on Humidity Adsorption Rates*

SACNAS, Colorado State University Chapter
SACNAS CSU Rising Young Scientist Award

Isabella Delhierro 8th grade
certificate, \$50
Challenge School Denver
*How Can the Energy Created From A Solenoid Engine Be
Used To Create Electricity To Power Things?*

Anesh Ilango 6th grade
certificate, \$50
William Roberts Elementary School Denver
The Army Within Ourselves!

Dyhlani Perez 12th grade
certificate, \$50
Yuma High School Yuma
*The Difference Between How Piloerection Occurs Within
the Body Before & After a Spinal Cord Injury*

Amrita Saini 10th grade
certificate, \$50
Peak to Peak Charter School Lafayette
*Using Algae to Make Photosynthetic & Bioluminescent
Textiles for Sustainable Lighting & CO2 Removal*

Science Toy Magic

Physics Classroom Demonstration Award

Gemma Braza 8th grade
Lilyanne Oldham 8th grade
certificate, \$50
Eagleview Middle School Colorado Springs
Bright On! Illuminating the Solar Oven

Aanshi Shah 7th grade
certificate, \$100
Thunder Vista PK-8 School Broomfield
*Wheel of Fortune: A Novel Approach to Prevent Wastage of
Water*

Amrita Saini 10th grade
certificate, \$50
Peak to Peak Charter School Lafayette
*Using Algae to Make Photosynthetic & Bioluminescent
Textiles for Sustainable Lighting & CO2 Removal*

Kelly Yang 9th grade
certificate, \$100
Fairview High School Boulder
*Under Pressure: Piezoresistive Pressure Sensors for
Electronic Skin*

**Society for Mining, Metallurgy & Exploration,
Colorado Section**

Excellence in Mineral Science & Engineering Award

Mary Fernandez 7th grade
plaque, \$200
Good Shepherd Catholic School Denver
*No More Noise!: How Cotton Density Affects Sound Level
in Earmuffs*

Mathangi Kurup 7th grade
plaque, \$300
Challenge School Denver
*Phytoremediation of Lead Contaminated Soil Using
Brassica Juncea*

Wilson Moyer 11th grade
plaque, \$300
Lakewood High School Lakewood
*Analyzing Non-Chemical Storage Solutions for the Grid-
Scale Energy Problem*

Nathaniel Ellis 10th grade
plaque, \$500
Durango High School Durango
*Moon-Opoly: Utilizing In-Situ Resources (ISRU) for the
Construction of Lunar Concrete*

**Society of Manufacturing Engineers
Colorado Chapter 354**

Andy Keller Memorial Award

Ayush Vispute 7th grade
certificate, \$100, recognition by the local chapter
Mountain Ridge Middle School Colorado Springs
Dirt Cheap Filters

Trent Donley 12th grade
certificate, \$150, recognition by the local chapter
Central High School Pueblo
Universal Gate Valve

Teagan Archer 9th grade
certificate, \$200, recognition by the local chapter
Mancos High School Mancos
The Perfect Pan

**Society of Women Engineers
Rocky Mountain Section
SWE Award**

Gemma Braza	8th grade
Lilyanne Oldham	8th grade
certificate, \$75	
Eagleview Middle School	Colorado Springs
<i>Bright On! Illuminating the Solar Oven</i>	
Aanshi Shah	7th grade
certificate, \$100	
Thunder Vista PK-8 School	Broomfield
<i>Wheel of Fortune: A Novel Approach to Prevent Wastage of Water</i>	
Amrita Saini	10th grade
certificate, \$75	
Peak to Peak Charter School	Lafayette
<i>Using Algae to Make Photosynthetic & Bioluminescent Textiles for Sustainable Lighting & CO2 Removal</i>	
Teagan Archer	9th grade
certificate, \$100	
Mancos High School	Mancos
<i>The Perfect Pan</i>	

**Soil & Water Conservation Society
Colorado Chapter**

Natural Resource Conservation Award

Pace Wallace	6th grade
certificate, \$100	
Las Animas Junior High School	Las Animas
<i>Wind Erosion</i>	
Amanda Castillo-Lopez	10th grade
certificate, \$100	
Cherry Creek High School	Greenwood Village
<i>Reducing Grass Irrigation Using Sugar Cane Bagasse as Soil Amendment</i>	

**State of Colorado Division of Reclamation, Mining
& Safety**

DRMS Outstanding Science Exhibit

Payton Zieske	7th grade
certificate, \$75	
Hope Community Christian Academy	Ignacio
<i>What Foundations Are Best for a House with Settling Problems</i>	
Denton Peil	10th grade
certificate, \$75	
Yuma High School	Yuma
<i>Mycorrhizal Fungi (Rhizophagus intraradices) and Its Effect on the Height and Biomass of Marigolds</i>	

STEMgirls, LLC

STEMgirls Middle School Rising Star Award

Sage Ketels	6th grade
certificate, \$100	
Alta Vista Charter School	Lamar
<i>Does Shot Size Matter?</i>	

Trout Unlimited

Trout Unlimited River Conservation Award

Emily Hume	9th grade
certificate, \$75	
Walsh Jr/Sr High School	Walsh
<i>How Can Algae Be Utilized in Nitrate Reduction?</i>	
Lilly Figueroa	11th grade
certificate, \$125	
Mancos High School	Mancos
<i>Investigation of pH Levels in Relation to Northern Leopard Frogs</i>	
Grace Wahl	10th grade
certificate, \$200	
West Grand High School	Kremmling
<i>Firewater</i>	

Wilkins Family

Young Entrepreneur's Award

Trent Donley	12th grade
certificate, \$750	
Central High School	Pueblo
<i>Universal Gate Valve</i>	

Wojtaszek Family

Paul Wojtaszek Memorial Award

Aditi Avinash	10th grade
certificate, \$200 (The winning team or individual is asked to send a letter of appreciation to Mary Wojtaszek, the mother of Paul Wojtaszek.)	
Rock Canyon High School	Highlands Ranch
<i>Quantitative Methods to Analyze the Synergism of Digestive Enzymes for Gluten Breakdown</i>	

Scholarships

Colorado School of Mines

Colorado School of Mines Scholarships

Gitanjali Rao	11th grade
\$1,000 scholarship to attend CSM, renewable for up to 3 additional years for use towards an undergraduate degree	
STEM School	Highlands Ranch
<i>A Novel Approach to Early Directional Diagnosis for Prescription Opioid Addiction - Phase II</i>	

Wilson Moyer 11th grade
\$1,000 scholarship to attend CSM, renewable for up to 3 additional years for use towards an undergraduate degree
Lakewood High School Lakewood
Analyzing Non-Chemical Storage Solutions for the Grid-Scale Energy Problem

Natalie Pujet 11th grade
\$1,000 scholarship to attend CSM, renewable for up to 3 additional years for use towards an undergraduate degree
Fairview High School Boulder
Modeling Triton's Seasonal Atmospheric Change: Applications of the VT3D Model to Triton

Marissa Martinez 11th grade
\$1,000 scholarship to attend CSM, renewable for up to 3 additional years for use towards an undergraduate degree
Monte Vista High School Monte Vista
A Habitat Assessment Protocol to Determine Suitability for Southwestern Willow Flycatcher Occupancy

Rhys Hanson 11th grade
\$1,000 scholarship to attend CSM, renewable for up to 3 additional years for use towards an undergraduate degree
Conifer High School Conifer
To Apogee and Beyond

Anastasia Diener 11th grade
\$1,000 scholarship to attend CSM, renewable for up to 3 additional years for use towards an undergraduate degree
Fairview High School Boulder
Sequentially Photostiffening a Hydrogel: Redshifting Tetrzoles for Long-Wavelength Activation

Yicheng "Tony" Teng 11th grade
\$1,000 scholarship to attend CSM, renewable for up to 3 additional years for use towards an undergraduate degree
Fountain Valley School of Colorado Colorado Springs
Convolutional Neural Network Based Gesture Recognition Application System

Henry Westfall 11th grade
\$1,000 scholarship to attend CSM, renewable for up to 3 additional years for use towards an undergraduate degree
Fairview High School Boulder
Investigating Political Polarization Through Human Experiments and Agent-Based Simulation

National Society of Professional Engineers-Colorado

National Society of Professional Engineers of Colorado Scholarship Award

Zachary Weiner 12th grade
Zachary Porter 12th grade
\$1,000 scholarship to a Colorado Engineering College of student's choice
Nederland Middle Senior High School Nederland
Developing an Energy Efficient Home for Climate Control Using Passive Solar and Wind Technology

Society for Science – National Awards

Broadcom Foundation

Broadcom MASTERS Nomination

Tatum Duvall 8th grade
certificate, nomination to the 2022 Broadcom MASTERS competition

Thomas MacLaren School Colorado Springs
A Study on Acquired Immunity to Canine Distemper Virus & Canine Parvovirus in Vizsla Dogs

Julia Ropp 8th grade
certificate, nomination to the 2022 Broadcom MASTERS competition

Summit Middle Charter School Boulder
The Power of Positivity

John Butler 8th grade
certificate, nomination to the 2022 Broadcom MASTERS competition

West Grand Middle School Kremmling
Smokin' Hot Native Timber

Gabe Clark 8th grade
certificate, nomination to the 2022 Broadcom MASTERS competition

St. Columba Catholic School Durango
Paleo-Ornithology: Experimental Taphonomy & Bird Origins

Gemma Braza 8th grade
Lilyanne Oldham 8th grade
certificate, nomination to the 2022 Broadcom MASTERS competition

Eagleview Middle School Colorado Springs
Bright On! Illuminating the Solar Oven

Aanshi Shah 7th grade
certificate, nomination to the 2022 Broadcom MASTERS competition

Thunder Vista PK-8 School Broomfield
Wheel of Fortune: A Novel Approach to Prevent Wastage of Water

Sophia Zhang 8th grade
certificate, nomination to the 2022 Broadcom MASTERS competition

Summit Middle Charter School Boulder
A Small Bond Breaking Breaks Boundaries Toward the Solution to Plastic Pollution

Helen Wan 7th grade
certificate, nomination to the 2022 Broadcom MASTERS competition

Challenger Middle School Colorado Springs
Color in a Bird's World

Lila Mosberger 8th grade
certificate, nomination to the 2022 Broadcom MASTERS
competition
Summit Middle Charter School Boulder
How Ethanol Affects U-87 Glioblastoma Cells

Sophie May-Ostendorp 8th grade
certificate, nomination to the 2022 Broadcom MASTERS
competition
St. Columba Catholic School Durango
E. Coli Elimination

Haydan Drullinger 8th grade
certificate, nomination to the 2022 Broadcom MASTERS
competition
Liberty School Joes
*The Effects of Droplets Size from Irrigation Sprinklers on
Evaporation Rates*

Makenzie Consaul 7th grade
certificate, nomination to the 2022 Broadcom MASTERS
competition
Sargent Junior High School Monte Vista
Ready, Set, Grow

Piper Reitz 6th grade
certificate, nomination to the 2022 Broadcom MASTERS
competition
Alta Vista Charter School Lamar
The Great Crawdad Caper

Shayla Lewis 8th grade
Layla Gress 8th grade
certificate, nomination to the 2022 Broadcom MASTERS
competition
Firestone Charter Academy Firestone
How Smell Affects Taste

Brigid Morin 8th grade
certificate, nomination to the 2022 Broadcom MASTERS
competition
Good Shepherd Catholic School Denver
*Nothing is Black or White: How Chemicals Affect the
Amount of Light that Paint Reflects*

Noah Tice 8th grade
certificate, nomination to the 2022 Broadcom MASTERS
competition
Summit Middle Charter School Boulder
*Does Elevation Affect the Amount of Alpha and Beta
Radiation in the Air?*

Saatwik Das 8th grade
certificate, nomination to the 2022 Broadcom MASTERS
competition
Peak to Peak Charter School Lafayette
Magnetic Levitation

Cuinn Archer 6th grade
certificate, nomination to the 2022 Broadcom MASTERS
competition
Mancos Middle School Mancos
Automatic Water

Mathangi Kurup 7th grade
certificate, nomination to the 2022 Broadcom MASTERS
competition
Challenge School Denver
*Phytoremediation of Lead Contaminated Soil Using
Brassica Juncea*

Eli Krause 8th grade
certificate, nomination to the 2022 Broadcom MASTERS
competition
Flagstaff Academy Longmont
Learn Better With Games

Naomi Kruse 8th grade
certificate, nomination to the 2022 Broadcom MASTERS
competition
Schullandheim Home School Colorado Springs
*The Magic in the Milk: Determining Whether Milk Protein
Plays a Role in Antiviral Protection*

Gryffin Lawrence 7th grade
certificate, nomination to the 2022 Broadcom MASTERS
competition
Friends School Boulder
*Toothpaste Trauma: The Relationship Between Toothpaste
and Change in Amount of Bacteria on Teeth*

Mary Fernandez 7th grade
certificate, nomination to the 2022 Broadcom MASTERS
competition
Good Shepherd Catholic School Denver
*No More Noise!: How Cotton Density Affects Sound Level
in Earmuffs*

Karson Harbison 8th grade
certificate, nomination to the 2022 Broadcom MASTERS
competition
St. Columba Catholic School Durango
Magnets Maximize Plant Growth

American Meteorological Society
Outstanding Achievement in Atmospheric Sciences
Award

Pace Wallace 6th grade
certificate
Las Animas Junior High School Las Animas
Wind Erosion

Saahithi Kasa 8th grade
certificate
Challenge School Denver
*The Heat of the Matter: Increasing Relative Humidity with
Soil Additives*

Natalie Pujet 11th grade
certificate
Fairview High School Boulder
Modeling Triton's Seasonal Atmospheric Change: Applications of the VT3D Model to Triton

Elton Cao 10th grade
certificate
Fairview High School Boulder
The Effect of Oil and Gas Production on Tropospheric Ozone and Air Quality Emissions

American Psychological Association
Outstanding Achievement in Psychological Sciences Award

Berkley Ulibarri 7th grade
certificate
St. John the Evangelist Catholic School Loveland
The Power of Suggestion

Gabriella Rodriguez 12th grade
certificate
Justice & Heritage Academy Antonito
How Do Fears Change with Age?

Association for Women Geoscientists
Outstanding Achievement in Geosciences Award

Mathangi Kurup 7th grade
certificate
Challenge School Denver
Phytoremediation of Lead Contaminated Soil Using Brassica Juncea

Marissa Martinez 11th grade
certificate
Monte Vista High School Monte Vista
A Habitat Assessment Protocol to Determine Suitability for Southwestern Willow Flycatcher Occupancy

Lemelson Foundation
Lemelson Early Inventor Prize

Parker Mitchell 6th grade
certificate, \$100 (response required from winner to process)
Sargent Elementary School Monte Vista
Spin That Wheel II

Mu Alpha Theta
Outstanding Achievement in Mathematics

Ethan Lou 9th grade
certificate
Cherry Creek High School Greenwood Village
Solving the Three-Body Problem with Physics Neural Networks

Morgan Holien 12th grade
certificate
Monarch High School Louisville
Attempting to Define Tetration of Non-Integer Heights

NASA
NASA Earth System Science Award

Pace Wallace 6th grade
certificate
Las Animas Junior High School Las Animas
Wind Erosion

Ada Pence 9th grade
Hannah Shelton 9th grade
certificate
Centauri High School La Jara
Observing the Relationship Between Sand Temperature and Ambient Air Temperature on Different Slopes

National Oceanic and Atmospheric Administration
Taking the Pulse of the Planet Award

Saahithi Kasa 8th grade
certificate
Challenge School Denver
The Heat of the Matter: Increasing Relative Humidity with Soil Additives

Regeneron
Regeneron Biomedical Science Award

Kelly Yang 9th grade
certificate, \$500 (response required from winner to process)
Fairview High School Boulder
Under Pressure: Piezoresistive Pressure Sensors for Electronic Skin

Ricoh
Ricoh Sustainable Development Award

Ernest Kolesnikov 7th grade
Toshiro Nagafuji 7th grade
certificate
Fox Ridge Middle School Aurora
How Different Substrates Affect Bioplastics

Wilson Moyer 11th grade
certificate
Lakewood High School Lakewood
Analyzing Non-Chemical Storage Solutions for the Grid-Scale Energy Problem

Society for In Vitro Biology
Outstanding Achievement in In Vitro Biology Award

Daniel Lin 11th grade
certificate
Fairview High School Boulder
Discovering Biomarkers for Breast Cancer Subtypes with Gene Expression Data Using Machine Learning

**United States Agency for International
Development**

USAID Science Champion Award

Zach Schreurs 8th grade
certificate

Firestone Charter Academy Firestone
Bean Growth on the Red Planet: Yay or Nay?

Amrita Saini 10th grade
certificate

Peak to Peak Charter School Lafayette
*Using Algae to Make Photosynthetic & Bioluminescent
Textiles for Sustainable Lighting & CO2 Removal*

United States Metric Association

*Outstanding Achievement in the Use of the
International System Award*

Cooper Manganaro 7th grade
certificate

Escalante Middle School Durango
*Was Isaac Newton Correct? Testing the Classic Equation
($F=MxA$) on a Pool Table*

Abigail Ross 11th grade
certificate

Lamar High School Lamar
Detecting Flares (Part 4)

Yale Science & Engineering Association

*Outstanding Achievement in Science & Engineering
Award*

Yicheng "Tony" Teng 11th grade
certificate, medallion (response required from winner to
process)

Fountain Valley School of Colorado Springs
Colorado
*Convolutional Neural Network Based Gesture Recognition
Application System*

Teacher

Colorado Science & Engineering Fair

Doug Steward Memorial Award

Boone Starr
certificate \$75
Flagstaff Academy Longmont

Lockheed Martin

CSEF Teacher of the Year Award

Boone Starr
certificate, plaque, \$3,000 grant to the school
Flagstaff Academy Longmont