

2025 Colorado Science and Engineering Fair Grand Award Winners

Junior Division Best of CSEF Project

First Place

Omar Manshad 8th grade
Building a Safe Robotic Arm for Table-Top Interactions
Crescent View Academy Aurora

Second Place

Sienna Harden 7th grade
Cora Bauer 8th grade
Are Dewormers Needed Here?
St. Joseph Catholic School Fort Collins

Third Place

Cameron Kempisty 8th grade
Going Nuts Over Biochar: Pistachios vs. PFAS
Eagleview Middle School Colorado Springs

Senior Division Best of CSEF Project

First Place

Amy Zhang 10th grade
*AI Guides, Vision-Impaired Act: Safety-Aware Actionable
Guidance Via Vision-Language Models*
Lakewood High School Lakewood

Second Place

Tristan Cao 11th grade
*Emergent Quantum Inductance in Chiral Orbital Current
State*
Stargate Charter School Thornton

Third Place

Sophia Zhang 11th grade
*Natural Eutectogels As a Novel Material for Green Electronic
Skin*
Fairview High School Boulder

Fourth Place

Lydia Mekelburg 12th grade
*Year Two- Spatial Analysis of Chronic Wasting Disease in
Northern Colorado Deer Populations: Analysis of Age
Structure Utilizing Cementum Annuli*
Yuma High School Yuma

Fifth Place

Natalie Muro 11th grade
*A Sustainable Cyanobacteria Mitigation Method for
Freshwater Ecosystems in the Rocky Mountain Region*
Palmer High School Colorado Springs

Junior Division Animal Sciences

First Place

Sienna Harden 7th grade
Cora Bauer 8th grade
Are Dewormers Needed Here?
St. Joseph Catholic School Fort Collins

Second Place

Finnley Reitz 7th grade
The Great Quail Query
Lamar Middle School Lamar

Third Place

Hannah Deering 7th grade
*The Potential Relationship Between Tibia Length and Speed in
Samoyed Dogs Running 100 Yards*
Yuma Middle School Yuma

Honorable Mention

Ava Shah 8th grade
How Exercise Affects Stress Levels in Horses
Summit Charter Middle School Boulder

Honorable Mention

Levi Spencer 8th grade
Light Triggers on Serotonin Levels
Liberty School Joes

Senior Division Animal Sciences

First Place

Lydia Mekelburg 12th grade
*Year Two- Spatial Analysis of Chronic Wasting Disease in
Northern Colorado Deer Populations: Analysis of Age
Structure Utilizing Cementum Annuli*
Yuma High School Yuma

Second Place

Chloe Whiton 12th grade
*The Snack Snatcher Stopper: "An Automatic Locking Dog
Bowl"*
Centaurus High School Louisville

Third Place

Priya Mayjoy 9th grade
*Monitoring Apis Mellifera Linnaeus for Winter Survival, Year
Two*
Lamar High School Lamar

Honorable Mention

Teagan Bruchez 10th grade
*The Effects of the Transfer of Wolves and the Fertility Rate of
Grand County Cattle*
West Grand High School Kremmling

Junior Division Behavioral & Social Sciences

First Place

Juliet Huckabay 8th grade
The Impact of Age on Pattern Separation and Completion
Skinner Middle School Denver

Second Place

Marin Hayes 8th grade
No Need for Speed
Boulder Country Day School Boulder

2025 Colorado Science and Engineering Fair

Grand Award Winners

Third Place

Luke Tollefson 6th grade
Where's Waldo: A Study on Attention Using Eye Tracking
 St. John the Evangelist Catholic School Loveland

Honorable Mention

Helen Ostrowski 8th grade
Who Wrote It? How Genre Affects Students' Ability to Detect AI
 Monument Academy Monument

Honorable Mention

Anabelle Pettinger 8th grade
Technology with the Youth
 Vilas Schools Vilas

Senior Division Behavioral & Social Sciences

First Place

Zachary Gao 11th grade
Impacts of Political Views on Donations to Refugees with Different Linguistic Framing
 Cherry Creek High School Greenwood Village

Second Place

Ella Blakeley 11th grade
Perceptions Across Generations: Analyzing Age-Related Differences in Distinguishing Between AI and Real Facial Stimuli
 Palmer Ridge High School Monument

Third Place

Vanya Lavu 12th grade
Developing a Novel Enzyme Therapy for Improving GAD and Gastrointestinal Health in Rats
 The Classical Academy Colorado Springs

Honorable Mention

Jerry Lou 11th grade
The Effects of Cartoons on Developing Healthy Eating Habits in Children
 Stargate Charter School Thornton

Junior Division Biomedical & Health Sciences

First Place

Mateo Guerrero 8th grade
Fruit Flies Attraction to Different Doughs to Conclude Health Inferences
 Summit Charter Middle School Boulder

Second Place

Vedanth Raju 7th grade
A Novel Plant-Based Topical Drug "Curcaza+" to Help Treat Diabetic Foot Ulcers/Infections and Help Reduce Antimicrobial Resistance
 Aurora Quest K-8 School Aurora

Third Place

Travis Wise 8th grade
Analysis of Glucose Levels in Food to Aid in Hypoglycemic Recovery
 Liberty School Joes

Honorable Mention

Elizabeth Lauren George 8th grade
Which Glucose Monitor Is Most Accurate?
 West Grand Middle School Kremmling

Honorable Mention

Elsa Ciembronowicz 7th grade
Origianl Kitchen Insulin
 Vallis Cymbia Academiaie Homeschool Frederick

Senior Division Biomedical & Health Sciences

First Place

Jenny Xu 11th grade
 Amanda Zou 11th grade
Disrupting PCSK9 and ANGPTL3 Genes with CRISPR for Hypercholesterolemia Treatment
 Fairview High School Boulder

Second Place

Roa Lee 11th grade
MMP-Deactivating Therapeutic Contact Lenses for Corneal Melting
 Mountain Vista High School Highlands Ranch

Third Place

Saahithi Kasa 11th grade
Up in Smoke: The Effect of Protective Topical Ointment Against Wildfire Particle Penetration
 Cherry Creek High School Greenwood Village

Honorable Mention

Maria Sears 12th grade
Lung Distance Relationship: A Remote Monitoring Device That Tracks Pulmonary Function
 Monte Vista High School Monte Vista

Junior Division Chemistry

First Place

Violet Sandridge 8th grade
Radiation Resilience: Evaluating Photostability in Natural and Synthetic Sunscreens
 Summit Charter Middle School Boulder

Second Place

Kenley Mitchell 7th grade
Light It Before You Bite It!
 Sargent Middle School Monte Vista

2025 Colorado Science and Engineering Fair

Grand Award Winners

Third Place

Humza Memon 7th grade
From Kitchen to Energy: Leveraging Fermentation Enhancers for Improved Biogas Production
 Crescent View Academy Aurora

Honorable Mention

Jocelyn Schoenfeld 6th grade
Skittles Chromotography
 Genoa-Hugo School Hugo

Honorable Mention

Elizabeth Gerk 7th grade
A World of Water
 Wiggins Middle School Wiggins

Senior Division Chemistry

First Place

Sophia Zhang 11th grade
Natural Eutectogels As a Novel Material for Green Electronic Skin
 Fairview High School Boulder

Second Place

Arnav Venkatesh 10th grade
Enhancing Microbot Functionality Through Single Layered Hydrogels
 Grandview High School Aurora

Third Place

Neha Pesaramelli 11th grade
Measuring Chemical Kinetics in High School Labs
 Peak to Peak Charter School Lafayette

Honorable Mention

Bogar Quezada 10th grade
Desulfurization
 Sierra Grande High School Blanca

Honorable Mention

Jack Griepentrog 9th grade
Baking the Perfect Chocolate Chip Cookie
 SkyView Academy Highlands Ranch

Junior Division Earth & Environmental Sciences

First Place

Cameron Kempisty 8th grade
Going Nuts Over Biochar: Pistachios vs. PFAS
 Eagleview Middle School Colorado Springs

Second Place

Kendyl Osborn 7th grade
Monarch Butterfly Pitstop
 La Junta Junior High School La Junta

Third Place

Kayla Melby 6th grade
Photosynthesis Through Thick and Thin: Development of a Light Collecting Device to Prevent Winterkill in Ice Covered Lakes
 Yuma Middle School Yuma

Honorable Mention

Ben Zhao 8th grade
Earthquake Asperities Relation to Recurrence
 Summit Charter Middle School Boulder

Honorable Mention

Aylin Melgar Bobadilla 8th grade
 Nayla Gutierrez 8th grade
Helpful Organisms: Using Microorganisms in Eutrophic Bodies of Water
 Wray Jr/Sr High School Wray

Senior Division Earth & Environmental Sciences

First Place

Alex Kugler 12th grade
 Zoe Kugler 12th grade
Comparison of Aurora Activity with Thermosphere Na and Fe (TINa and TiFe) Layers at McMurdo Station
 Monarch High School Louisville

Second Place

Lauren Erickson 12th grade
The Effect of Fire Mitigation on Avian Biodiversity as Measured Through Bioacoustics
 Evergreen High School Evergreen

Third Place

Emma Bahr 12th grade
Effect of Temperature on Growth of Diatoms Skeletonema costatum and Ditylum brightwellii
 Palmer High School Colorado Springs

Honorable Mention

Hannah Shelton 12th grade
Sediment Signatures: Unveiling the Impact of Sedimentary Deposits on Diatoms Through Lake Bottom Sampling
 Centauri High School La Jara

Junior Division Energy

First Place

Ingram Olson 6th grade
A Better Solar Panel: Can Coating Solar Panels Improve Their Efficiency?
 Telluride Intermediate School Telluride

Second Place

Bianca Buczkowski 8th grade
Should Solar Panels Track the Sun?
 Monument Academy Monument

2025 Colorado Science and Engineering Fair Grand Award Winners

Third Place

Connor Stone 7th grade
 Evelyn Lapp 8th grade
Insulation Investigation
 Brush Middle School Brush

Honorable Mention

Benjamin Knight 7th grade
Wind Turbine Efficiency: Which Blade Design Works the Best?
 Corwin International Magnet School Pueblo

Senior Division Energy

First Place

Carson Stone 9th grade
 Chase Pollart 10th grade
Water Tower Power - Storing Solar Energy with an Elevated Pumped Storage Hydropower System
 Brush High School Brush

Junior Division Engineering

First Place

Omar Manshad 8th grade
Building a Safe Robotic Arm for Table-Top Interactions
 Crescent View Academy Aurora

Second Place

Ella Music 8th grade
A Haptic Guidance System for Visually Impaired Sport Climbers
 Summit Charter Middle School Boulder

Third Place

Evan Gopinath 7th grade
The Pumpkin Carver
 Nevin Platt Middle School Boulder

Honorable Mention

Maci Widger 8th grade
Under Pressure
 Sargent Middle School Monte Vista

Honorable Mention

Cooper Bolyard 8th grade
Under Pressure
 Wiggins Middle School Wiggins

Senior Division Engineering

First Place

Cuinn Archer 9th grade
Smart Wheels: An RC Car That Measures and Analyzes Shapes
 Mancos High School Mancos

Second Place

Mateo Feit 9th grade
The PetProfiler: Machine Learning and Mechanics for a Smart Doggy Door
 Fairview High School Boulder

Third Place

Devon Mahorney 9th grade
Road Ready
 West Grand High School Kremmling

Honorable Mention

Jude Chen 10th grade
Development of Digital Correlation Software to Evaluate Mechanical Properties of 3D-Printed Polymers for Sustainable Material Innovation
 Fairview High School Boulder

Junior Division Environmental Engineering

First Place

Paisley Anderson 8th grade
Mineral Mining Monsters: Time Will Tail
 Creede Schools Creede

Second Place

Lyndee Thomson 7th grade
 Ryder Pryor 7th grade
Waters' Ways
 West Grand Middle School Kremmling

Third Place

Payal Gopinath 7th grade
Plant Growing Conditions
 Nevin Platt Middle School Boulder

Honorable Mention

Jainil Parikh 6th grade
Harnessing Waste Powering Future
 Challenger Middle School Colorado Springs

Honorable Mention

Solomon Charlton-Jones 7th grade
The Poly Cracker 2.0: A Size and Weight Controlled Birdhouse
 Flagstaff Academy Charter School Longmont

Senior Division Environmental Engineering

First Place

Natalie Muro 11th grade
A Sustainable Cyanobacteria Mitigation Method for Freshwater Ecosystems in the Rocky Mountain Region
 Palmer High School Colorado Springs

Second Place

Siddhi Singh 11th grade
A Low-Cost, Onboard Animal Detection System to Mitigate Wildlife-Vehicle Collisions
 STEM School Highlands Ranch

Third Place

Naomi Kruse 11th grade
Paper for the Planet 2: Kickstarting Microbial Succession Following California Wildfires
 Schullandheim Homeschool Colorado Springs

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Grand Award Winners

Junior Division Mathematics & Computer Sciences

First Place

Wensen Fang 8th grade
Blazing Bright: Uncovering the Truth Behind Wildfires in Colorado via Machine Learning
 Summit Charter Middle School Boulder

Second Place

Bode Monahan 8th grade
Frequency Chaos: Coding a Wi-Fi Interrupter for Tactical Use
 Liberty School Joes

Third Place

Madeleine Hahn 6th grade
Is AI Racist or Sexist?
 Flagstaff Academy Charter School Longmont

Honorable Mention

Oliver Ciembronowicz 7th grade
Are They Listening To Us?
 Vallis Cymbia Academiaie Homeschool Frederick

Senior Division Mathematics & Computer Sciences

First Place

Amy Zhang 10th grade
AI Guides, Vision-Impaired Act: Safety-Aware Actionable Guidance Via Vision-Language Models
 Lakewood High School Lakewood

Second Place

Devang Pandey 12th grade
Enhancing Brain Tumor Classification with Synthetic Data Via Gen Models and Hybrid Training
 Fairview High School Boulder

Third Place

Ayush Vispute 10th grade
Protein Flow v2: Biocomputational Analysis of Metabolic Pathways to Discover New Carbon Capturing Bacteria
 Rampart High School Colorado Springs

Honorable Mention

Aishwarya Kamineni 10th grade
Optimization of Non-Invasive Pneumonia Prediction Using Novel Machine Learning Algorithms
 Grandview High School Aurora

Honorable Mention

Tanush Shekhar 11th grade
 Jack Cerullo 12th grade
Revolutionizing CryoEt: Novel Simulation Techniques for ML-Based Tomograph Labeling
 Peak to Peak Charter School Lafayette

Junior Division Micro & Molecular Biology

First Place

Julia Muro 8th grade
Modified Atmosphere Packaging Strategies for Prolonged Organic Strawberry Health
 North Middle School Colorado Springs

Second Place

Paisley Wiersma 8th grade
What's in That Water?
 Genoa-Hugo School Hugo

Third Place

Anmoldeep Singh Gill 7th grade
Antibiotic Resistance in Escherichia coli
 Lamar Middle School Lamar

Honorable Mention

Eli Harrison 7th grade
 Jagadish White 7th grade
The Effect of Pet Toothpaste on the Canine Oral
 Home School Eric

Honorable Mention

Grace Cullen 8th grade
Bacteria Buster
 Yuma Middle School Yuma

Honorable Mention

Cash Stone 8th grade
Mold Patrol: How Storage Conditions Affect Mold Growth and Animal Feed
 Genoa-Hugo School Hugo

Senior Division Micro & Molecular Biology

First Place

Serene Park 11th grade
The Effect of Glyphosate on Bacillus subtilis Biofilm
 Cherry Creek High School Greenwood Village

Second Place

Cami Wolkow 11th grade
Genetically Enhancing Fungi to Bioremediate Tetracycline
 Palmer High School Colorado Springs

Third Place

Ria Rajaseckharan 10th grade
Glycopeptidolipids: A New Diagnostic Tool for COPD and Cystic Fibrosis Patients Infected with Non-Tuberculous Mycobacteria
 Fossil Ridge High School Fort Collins

Honorable Mention

Maxwell Minson 12th grade
Determining the Distribution of Red Fluorescent Protein Marked Agrobacterium Tumefaciens within Different Species of Legumes
 Broomfield High School Broomfield

2025 Colorado Science and Engineering Fair

Grand Award Winners

Honorable Mention

Sreyanth Saipavan Alla 11th grade
BactiScan: A Deep Convolutional Neural Network for Tracking Shigella flexneri Infection
 Rock Canyon High School Castle Pines

Junior Division Physics & Astronomy

First Place

Lane Mattive 8th grade
Can I Get a Lift?
 Sargent Middle School Monte Vista

Second Place

Vivian Bozek 7th grade
Light It Up and Launch It
 St. Joseph Catholic School Fort Collins

Third Place

Elly Entz 7th grade
Don't Interfere with Snow Gear
 Sargent Middle School Monte Vista

Honorable Mention

Ryker Monahan 6th grade
The Heat Is On: Testing Heat Resistant Materials
 Liberty School Joes

Senior Division Physics & Astronomy

First Place

Tristan Cao 11th grade
Emergent Quantum Inductance in Chiral Orbital Current State
 Stargate Charter School Thornton

Second Place

Helen Wan 10th grade
Time-Sensitive Medicine Dissolution in a Microgravity Environment Emulated by Acoustic Levitation
 Pine Creek High School Colorado Springs

Third Place

Julia Gao 10th grade
Toward Discovery of the Sterile Neutrino: Deep Learning Muon Neutrino Reconstruction at ICARUS
 Fairview High School Boulder

Honorable Mention

Lillian Prime 12th grade
Analysis and Comparison of Gravitational Wave Event Parameters
 Palmer High School Colorado

Junior Division Plant Sciences

First Place

Lola Sondrol 8th grade
Do Endophytes Affect the Growth of Lolium perenne?
 Monte Vista Online Academy Monte Vista

Second Place

Elaina Consaul 8th grade
Salinity Solution: A Study of How the Salinity in Water Affects Plant Growth
 Sargent Middle School Monte Vista

Third Place

Thomas D'Attilo 7th grade
New Zealand Mud Snails and How Do We Get Rid of Them?
 Nevin Platt Middle School Boulder

Honorable Mention

Caprise Priestley 6th grade
Electroculture Gardening and How It Affects Plants
 Mancos Middle School Mancos

Honorable Mention

Grayson Kassib 8th grade
Aquaponics vs. Aeroponics
 West Grand Middle School Kremmling

Senior Division Plant Sciences

First Place

Laila Waldron 12th grade
Differences in Floral Quality and Ecosystem Health Between Burn Areas and Logged Clear Cuts
 Nederland High School Nederland

Second Place

Kaycee Clark 9th grade
Cheater Cheater Rangeland Eater: A Study on Mitigating the Spread of Downy Brome Using Pseudomonas Fluorescens D7 and ACK55
 Wray Jr/Sr High School Wray

Third Place

Janet Ngomba Bajikijay 12th grade
 Mayssan Salim 12th grade
 Nayibe Burciaga Buhaya 12th grade
The Effect of Nanoparticles on Plant Growth
 Lotus School for Excellence Aurora

Honorable Mention

Om Vegesna 10th grade
Combating Root-Knot (Meloidogyne spp.) and Fusarium oxysporum with Stabilized Allicin and siRNA Constructs
 Fairview High School Boulder

Honorable Mention

Siena Parr 12th grade
Absorption of Glyphosate-Based Herbicide in Zea Mays Plants Utilizing Zinc-Oxide Nanoparticles
 Dolores High School Dolores