

2024 Contra Costa County Science & Engineering Fair PROJECT PLACEMENTS & SPECIAL AWARDS

SENIOR DIVISION GRAND SWEEPSTAKES WINNERS (9th - 12th Grades) and INTERNATIONAL SCIENCE & ENGINEERING FAIR FINALISTS

These projects will represent CCCSEF at the Regeneron International Science & Engineering Fair (ISEF) to be held May 12-17, 2024 in Los Angeles.

CATEGORY	GRADE	TITLE	STUDENT	SCHOOL	SPECIAL AWARD
					Senior Sweepstakes
Biology	12	Breastmilk: Nature's Vaccine Against COVID-19	Vaishnavi Kolluru	Dougherty Valley High	California Science & Engineering Fair
				Bio-Rad Laboratories, \$100	
Engineering	10	Development of a Multi-Sensor System to Prevent Child Vehiculaar	Clara Kerr	The Athenian School	Senior Sweepstakes
Engineering	10	Heatstroke	Cidia Nell	The American School	California Science & Engineering Fair
					Senior Sweepstakes
Math/Computer	SCOMAE: A method to diagnose Tuberculosis from cough sounds using Supervised COntrastive Masked AutoEncoders	Faisal Nabulsi,	Acalanes High	California Science & Engineering Fair	
Science		Michael Xu		Chevron, \$500	
					Yale Science & Engineering Assn.

JUNIOR DIVISION GRAND SWEEPSTAKES WINNERS (7th-8th Grades) These students are eligible to compete for a place at the

Thermo Fisher Junior Innovators Challenge held in October 2024 in Washington, DC.

CATEGORY	GRADE	TITLE	STUDENT	SCHOOL	SPECIAL AWARD
Biology	8	Medical Drug Effect On Planarian Learning and Memory	Jasper Shi	Windemere Ranch Middle	Junior Sweepstakes California Science & Engineering Fair Bio-Rad Laboratories, \$100
Environmental	/	Smart Al enabled IOT System to Detect and predict trends of Toxic gases for Industrial Communities	Jainil Trivedi	Gale Ranch Middle	Junior Sweepstakes California Science & Engineering Fair
Environmental	8	Let's Photosynthesize	Fidel Leanos	St. John the Baptist	Junior Sweepstakes California Science & Engineering Fair

California Science & Engineering Fair Finalists (Only 18 are selected for this honor.)

The California Science & Engineering Fair will be held virtually April 11, 2024.

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CATEGORY	GRADE	TITLE	STUDENT	SCHOOL	SPECIAL AWARD			
Biology	8	Medical Drug Effect On Planarian Learning and Memory	Jasper Shi	Windemere Ranch Middle	Junior Sweepstakes California Science & Engineering Fair Bio-Rad Laboratories, \$100			
Biology	9	Effect of Withania Somnifera (Ashwagandha) root powder on planarian regeneration	Keerthi Eraniyan	California High	California Science & Engineering Fair CytomX, \$30			
Biology	10	Utilizing Neural Networks to Detect and Classify Skin Cancers	Prayag Gaonkar	Dougherty Valley High	California Science & Engineering Fair			
Biology	11	Investigation of the Role of Vitamin C in reducing bladder cancer presence	Naina Chopra	Dougherty Valley High	California Science & Engineering Fair			
Biology	12	Breastmilk: Nature's Vaccine Against COVID-19	Vaishnavi Kolluru	Dougherty Valley High	Senior Sweepstakes California Science & Engineering Fair Bio-Rad Laboratories, \$100			

Engineering	9	A Noble Approach to Predict the Well-being of Wheat Plants Throughout their Life Cycle for Sustainable Agriculture	Shreyan Mitra	California High	California Science & Engineering Fair
Engineering	10	Development of a Multi-Sensor System to Prevent Child Vehicular Heatstroke	Clara Kerr	The Athenian School	Senior Sweepstakes California Science & Engineering Fair
Engineering	12	Zeolites: Caging Oil, Saving Oceans	Heather Hutchcraft	Carondelet High	California Science & Engineering Fair CCC Water/Waste Water, \$200 Martinez Refining Company, \$500 Assn for Women Geoscientists
Environmental Science	7	Smart AI enabled IOT System to Detect and predict trends of Toxic gases for Industrial Communities	Jainil Trivedi	Gale Ranch Middle	Junior Sweepstakes California Science & Engineering Fair
Environmental Science	8	Let's Photosynthesize	Fidel Leanos	St. John the Baptist	Junior Sweepstakes California Science & Engineering Fair
Environmental Science	11	Correlation of Global Ocean Abiotic Factors to Petroleum Hydrocarbon Bacteria Prevalence to Create a Model for Condition-Specific Bioremediation of Soluble Oil Contaminants	Vedant Kathrani	Dougherty Valley High	California Science & Engineering Fair Chevron, \$500 Martinez Refining Company, \$500
Environmental Science	12	World Wide Worms Determining the Viability of Industrial-Scale Biodegradation of Polyethylene via Galleria mellonella	Rachel Kimball	Carondelet High	California Science & Engineering Fair Mt. Diablo Resource Recovery, \$250
Math/Computer Science	9	Unveiling Deepfakes: Defending National Security	Vaishnav Anand	The Athenian School	California Science & Engineering Fair Martinez Refining Company, \$500
Math/Computer Science	10	Alzheimer's BARRIER - Beta-Secretase 1 Reduction for Amyloid Plaque Regulation through Inhibition Exploration and Research: A Drug Discovery Approach	Neel Banga	Dougherty Valley High	California Science & Engineering Fair Chevron, \$500
Math/Computer Science	11	SCOMAE: A method to diagnose Tuberculosis from cough sounds using Supervised COntrastive Masked AutoEncoders	Faisal Nabulsi, Michael Xu	Acalanes High	Senior Sweepstakes California Science & Engineering Fair Chevron, \$500 Yale Science & Engineering Assn.
Math/Computer Science	12	NeuroGuardian: A Multimodal Telemedical Neurodegenerative Monitoring System with Self-learning Predictive Analytics for Late-Stage Amyotrophic Lateral Sclerosis (ALS) Patients		Dougherty Valley High	California Science & Engineering Fair Chevron, \$500
Physical Science	10	Development of a Biodegradable Hybrid Inspired Paper Battery Powered by Carbon-Black with Origami Designs Applicable for Biomedical Smart Systems	Yizhou Wang, Yifan Shi	Dougherty Valley High	California Science & Engineering Fair
Physical		The Influence of Anthocyanin-Rich Foods and Cooling on the Digestibility	Beatrice Roberge	Campolindo High	California Science & Engineering Fair
Science	12	of Cooked White Rice by A-Amylase	Bodinoo Hoborgo		
	12	of Cooked White Rice by A-Amylase FIRST PLACE			
	12 GRADE	FIRST PLACE		SCHOOL	SPECIAL AWARD
Science		FIRST PLACE	AWARDS	SCHOOL Diablo Vista Middle	SPECIAL AWARD
Science CATEGORY Behavorial Science Behavorial Science	GRADE	TITLE Synesthesia and Memory Empower Teens Breathwork to Tame Stress and Focus	AWARDS STUDENT Bree Chan, Juleen Gong,		SPECIAL AWARD American Phychological Association
Science CATEGORY Behavorial Science Behavorial	GRADE 7	TITLE Synesthesia and Memory	AWARDS STUDENT Bree Chan, Juleen Gong, Athena Wang	Diablo Vista Middle	American Phychological Association
Science CATEGORY Behavorial Science Behavorial Science Behavorial	7 9	TITLE Synesthesia and Memory Empower Teens Breathwork to Tame Stress and Focus Neuroscientific Insights into Implicit Bias Mitigation – Elucidating Neural Mechanism for Anti-Racist Interventions Medical Drug Effect On Planarian Learning and Memory	STUDENT Bree Chan, Juleen Gong, Athena Wang Akshara Ajendla	Diablo Vista Middle Heritage High	American Phychological Association Junior Sweepstakes California Science & Engineering Fair Bio-Rad Laboratories, \$100
Science CATEGORY Behavorial Science Behavorial Science Behavorial Science	9 11 8	TITLE Synesthesia and Memory Empower Teens Breathwork to Tame Stress and Focus Neuroscientific Insights into Implicit Bias Mitigation – Elucidating Neural Mechanism for Anti-Racist Interventions Medical Drug Effect On Planarian Learning and Memory Effect of Withania Somnifera (Ashwagandha) root powder on planarian regeneration	STUDENT Bree Chan, Juleen Gong, Athena Wang Akshara Ajendla Rishav Saravanan	Diablo Vista Middle Heritage High Dougherty Valley High	American Phychological Association Junior Sweepstakes California Science & Engineering Fair Bio-Rad Laboratories, \$100 California Science & Engineering Fair CytomX, \$30
Science CATEGORY Behavorial Science Behavorial Science Behavorial Science Biology	9 11 8	TITLE Synesthesia and Memory Empower Teens Breathwork to Tame Stress and Focus Neuroscientific Insights into Implicit Bias Mitigation – Elucidating Neural Mechanism for Anti-Racist Interventions Medical Drug Effect On Planarian Learning and Memory Effect of Withania Somnifera (Ashwagandha) root powder on planarian regeneration Utilizing Neural Networks to Detect and Classify Skin Cancers	STUDENT Bree Chan, Juleen Gong, Athena Wang Akshara Ajendla Rishav Saravanan Jasper Shi	Diablo Vista Middle Heritage High Dougherty Valley High Windemere Ranch Middle	American Phychological Association Junior Sweepstakes California Science & Engineering Fair Bio-Rad Laboratories, \$100 California Science & Engineering Fair
Science CATEGORY Behavorial Science Behavorial Science Behavorial Science Biology	9 11 8	TITLE Synesthesia and Memory Empower Teens Breathwork to Tame Stress and Focus Neuroscientific Insights into Implicit Bias Mitigation – Elucidating Neural Mechanism for Anti-Racist Interventions Medical Drug Effect On Planarian Learning and Memory Effect of Withania Somnifera (Ashwagandha) root powder on planarian regeneration	STUDENT Bree Chan, Juleen Gong, Athena Wang Akshara Ajendla Rishav Saravanan Jasper Shi Keerthi Eraniyan	Diablo Vista Middle Heritage High Dougherty Valley High Windemere Ranch Middle California High	American Phychological Association Junior Sweepstakes California Science & Engineering Fair Bio-Rad Laboratories, \$100 California Science & Engineering Fair CytomX, \$30 California Science & Engineering Fair California Science & Engineering Fair
Science CATEGORY Behavorial Science Behavorial Science Behavorial Science Biology Biology	9 11 8 9	TITLE Synesthesia and Memory Empower Teens Breathwork to Tame Stress and Focus Neuroscientific Insights into Implicit Bias Mitigation – Elucidating Neural Mechanism for Anti-Racist Interventions Medical Drug Effect On Planarian Learning and Memory Effect of Withania Somnifera (Ashwagandha) root powder on planarian regeneration Utilizing Neural Networks to Detect and Classify Skin Cancers Investigation of the Role of Vitamin C in reducing bladder cancer	STUDENT Bree Chan, Juleen Gong, Athena Wang Akshara Ajendla Rishav Saravanan Jasper Shi Keerthi Eraniyan Prayag Gaonkar Naina Chopra Vaishnavi Kolluru	Diablo Vista Middle Heritage High Dougherty Valley High Windemere Ranch Middle California High Dougherty Valley High	American Phychological Association Junior Sweepstakes California Science & Engineering Fair Bio-Rad Laboratories, \$100 California Science & Engineering Fair CytomX, \$30 California Science & Engineering Fair
Science CATEGORY Behavorial Science Behavorial Science Behavorial Science Biology Biology Biology Biology	9 11 8 9 10 11	TITLE Synesthesia and Memory Empower Teens Breathwork to Tame Stress and Focus Neuroscientific Insights into Implicit Bias Mitigation – Elucidating Neural Mechanism for Anti-Racist Interventions Medical Drug Effect On Planarian Learning and Memory Effect of Withania Somnifera (Ashwagandha) root powder on planarian regeneration Utilizing Neural Networks to Detect and Classify Skin Cancers Investigation of the Role of Vitamin C in reducing bladder cancer presence	STUDENT Bree Chan, Juleen Gong, Athena Wang Akshara Ajendla Rishav Saravanan Jasper Shi Keerthi Eraniyan Prayag Gaonkar Naina Chopra	Diablo Vista Middle Heritage High Dougherty Valley High Windemere Ranch Middle California High Dougherty Valley High Dougherty Valley High	Junior Sweepstakes California Science & Engineering Fair Bio-Rad Laboratories, \$100 California Science & Engineering Fair CytomX, \$30 California Science & Engineering Fair California Science & Engineering Fair California Science & Engineering Fair Senior Sweepstakes California Science & Engineering Fair

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Engineering	9	A Noble Approach to Predict the Well-being of Wheat Plants Throughout their Life Cycle for Sustainable Agriculture	Shreyan Mitra	California High	California Science & Engineering Fair
Engineering	10	Development of a Multi-Sensor System to Prevent Child Vehicular Heatstroke	Clara Kerr	The Athenian School	Senior Sweepstakes California Science & Engineering Fair
Engineering	11	Using Serious Games for Mental Disorder Detection	Sania Bidurukontam	Dougherty Valley High	
Engineering	12	Zeolites: Caging Oil, Saving Oceans	Heather Hutchcraft	Carondelet High	California Science & Engineering Fair CCC Water/Waste Water, \$200 Martinez Refining Company, \$500 Assn for Women Geoscientists
Environmental Science	7	Smart AI enabled IOT System to Detect and predict trends of Toxic gases for Industrial Communities	Jainil Trivedi	Gale Ranch Middle	Junior Sweepstakes California Science & Engineering Fair
Environmental Science	8	Let's Photosynthesize	Fidel Leanos	St. John the Baptist	Junior Sweepstakes California Science & Engineering Fair
Environmental Science	10	The Impact of Different Types of Arbuscular Mycorrhizal Fungi on Bibb Lettuce Stress Tolerance	Pranav Nalam, Varun Ganti	Dougherty Valley High	The Quan Family Trust Award, \$100
Environmental Science	11	Correlation of Global Ocean Abiotic Factors to Petroleum Hydrocarbon Bacteria Prevalence to Create a Model for Condition-Specific Bioremediation of Soluble Oil Contaminants	Vedant Kathrani	Dougherty Valley High	California Science & Engineering Fair Chevron, \$500 Martinez Refining Company, \$500
Environmental Science	12	World Wide Worms Determining the Viability of Industrial-Scale Biodegradation of Polyethylene via Galleria mellonella	Rachel Kimball	Carondelet High	California Science & Engineering Fair Mt. Diablo Resource Recovery, \$250
Environmental Science	7	So The Blind Can Drive	Layla Jweinat	St. Isidore	Lemelson Early Inventor, \$100
Math/Computer Science	8	WARM : Waste Awareness through Remote Monitoring	Arjun Datta Chowdhury	Iron Horse Middle	
Math/Computer Science	9	Unveiling Deepfakes: Defending National Security	Vaishnav Anand	The Athenian School	California Science & Engineering Fair Martinez Refining Company, \$500
Math/Computer Science	10	Alzheimer's BARRIER - Beta-Secretase 1 Reduction for Amyloid Plaque Regulation through Inhibition Exploration and Research: A Drug Discovery Approach	Neel Banga	Dougherty Valley High	California Science & Engineering Fair Chevron, \$500
Math/Computer Science	11	SCOMAE: A method to diagnose Tuberculosis from cough sounds using Supervised COntrastive Masked AutoEncoders	Faisal Nabulsi, Michael Xu	Acalanes High	Senior Sweepstakes California Science & Engineering Fair Chevron, \$500 Yale Science & Engineering Assn.
		NeuroGuardian: A Multimodal Telemedical Neurodegenerative Monitoring		December (1971)	California Science & Engineering Fair
Math/Computer Science	12	System with Self-learning Predictive Analytics for Late-Stage Amyotrophic Lateral Sclerosis (ALS) Patients	Gatik Trivedi	Dougherty Valley High	Chevron, \$500
	12	System with Self-learning Predictive Analytics for Late-Stage Amyotrophic	Gatik Trivedi Yizhou Wang, Yifan Shi	Dougherty Valley High	
Science Physical		System with Self-learning Predictive Analytics for Late-Stage Amyotrophic Lateral Sclerosis (ALS) Patients Development of a Biodegradable Hybrid Inspired Paper Battery Powered by Carbon-Black with Origami Designs Applicable for Biomedical Smart	Yizhou Wang,		Chevron, \$500
Science Physical Science Physical	10	System with Self-learning Predictive Analytics for Late-Stage Amyotrophic Lateral Sclerosis (ALS) Patients Development of a Biodegradable Hybrid Inspired Paper Battery Powered by Carbon-Black with Origami Designs Applicable for Biomedical Smart Systems The Influence of Anthocyanin-Rich Foods and Cooling on the Digestibility	Yizhou Wang, Yifan Shi Beatrice Roberge	Dougherty Valley High	Chevron, \$500 California Science & Engineering Fair
Science Physical Science Physical	10	System with Self-learning Predictive Analytics for Late-Stage Amyotrophic Lateral Sclerosis (ALS) Patients Development of a Biodegradable Hybrid Inspired Paper Battery Powered by Carbon-Black with Origami Designs Applicable for Biomedical Smart Systems The Influence of Anthocyanin-Rich Foods and Cooling on the Digestibility of Cooked White Rice by A-Amylase SECOND PLACE	Yizhou Wang, Yifan Shi Beatrice Roberge	Dougherty Valley High Campolindo High	Chevron, \$500 California Science & Engineering Fair California Science & Engineering Fair
Physical Science Physical Science CATEGORY Behavorial	10	System with Self-learning Predictive Analytics for Late-Stage Amyotrophic Lateral Sclerosis (ALS) Patients Development of a Biodegradable Hybrid Inspired Paper Battery Powered by Carbon-Black with Origami Designs Applicable for Biomedical Smart Systems The Influence of Anthocyanin-Rich Foods and Cooling on the Digestibility of Cooked White Rice by A-Amylase SECOND PLACE	Yizhou Wang, Yifan Shi Beatrice Roberge E AWARDS STUDENT Sahana Muthu,	Dougherty Valley High	Chevron, \$500 California Science & Engineering Fair
Science Physical Science Physical Science CATEGORY	10 12 GRADE	System with Self-learning Predictive Analytics for Late-Stage Amyotrophic Lateral Sclerosis (ALS) Patients Development of a Biodegradable Hybrid Inspired Paper Battery Powered by Carbon-Black with Origami Designs Applicable for Biomedical Smart Systems The Influence of Anthocyanin-Rich Foods and Cooling on the Digestibility of Cooked White Rice by A-Amylase SECOND PLACE TITLE	Yizhou Wang, Yifan Shi Beatrice Roberge E AWARDS STUDENT	Dougherty Valley High Campolindo High SCHOOL	Chevron, \$500 California Science & Engineering Fair California Science & Engineering Fair
Physical Science Physical Science CATEGORY Behavorial Science Behavorial	10 12 GRADE 7	System with Self-learning Predictive Analytics for Late-Stage Amyotrophic Lateral Sclerosis (ALS) Patients Development of a Biodegradable Hybrid Inspired Paper Battery Powered by Carbon-Black with Origami Designs Applicable for Biomedical Smart Systems The Influence of Anthocyanin-Rich Foods and Cooling on the Digestibility of Cooked White Rice by A-Amylase SECOND PLACE TITLE Examining the seeds of Sterotypes	Yizhou Wang, Yifan Shi Beatrice Roberge E AWARDS STUDENT Sahana Muthu, Zoha Gulzar Anushka Ojha,	Dougherty Valley High Campolindo High SCHOOL Diablo Vista Middle	Chevron, \$500 California Science & Engineering Fair California Science & Engineering Fair
Physical Science Physical Science CATEGORY Behavorial Science Behavorial Science Behavorial	10 12 GRADE 7	System with Self-learning Predictive Analytics for Late-Stage Amyotrophic Lateral Sclerosis (ALS) Patients Development of a Biodegradable Hybrid Inspired Paper Battery Powered by Carbon-Black with Origami Designs Applicable for Biomedical Smart Systems The Influence of Anthocyanin-Rich Foods and Cooling on the Digestibility of Cooked White Rice by A-Amylase SECOND PLACE TITLE Examining the seeds of Sterotypes Music to the Mind	Yizhou Wang, Yifan Shi Beatrice Roberge E AWARDS STUDENT Sahana Muthu, Zoha Gulzar Anushka Ojha, Vatsika Neelakandan	Dougherty Valley High Campolindo High SCHOOL Diablo Vista Middle Diablo Vista Middle	Chevron, \$500 California Science & Engineering Fair California Science & Engineering Fair
Physical Science Physical Science Physical Science CATEGORY Behavorial Science Behavorial Science Behavorial Science Behavorial Science Behavorial	10 12 GRADE 7 7	System with Self-learning Predictive Analytics for Late-Stage Amyotrophic Lateral Sclerosis (ALS) Patients Development of a Biodegradable Hybrid Inspired Paper Battery Powered by Carbon-Black with Origami Designs Applicable for Biomedical Smart Systems The Influence of Anthocyanin-Rich Foods and Cooling on the Digestibility of Cooked White Rice by A-Amylase SECOND PLACE TITLE Examining the seeds of Sterotypes Music to the Mind Diagnosing GERD based on reported symptoms after lifestyle changes.	Yizhou Wang, Yifan Shi Beatrice Roberge E AWARDS STUDENT Sahana Muthu, Zoha Gulzar Anushka Ojha, Vatsika Neelakandan Ayaz Ahmed	Dougherty Valley High Campolindo High SCHOOL Diablo Vista Middle Diablo Vista Middle Dougherty Valley High	Chevron, \$500 California Science & Engineering Fair California Science & Engineering Fair
Physical Science Physical Science Physical Science CATEGORY Behavorial Science Behavorial Science Behavorial Science Behavorial Science Behavorial Science	10 12 GRADE 7 7 11	System with Self-learning Predictive Analytics for Late-Stage Amyotrophic Lateral Sclerosis (ALS) Patients Development of a Biodegradable Hybrid Inspired Paper Battery Powered by Carbon-Black with Origami Designs Applicable for Biomedical Smart Systems The Influence of Anthocyanin-Rich Foods and Cooling on the Digestibility of Cooked White Rice by A-Amylase SECOND PLACE TITLE Examining the seeds of Sterotypes Music to the Mind Diagnosing GERD based on reported symptoms after lifestyle changes. How VR Affects Creativity	Yizhou Wang, Yifan Shi Beatrice Roberge E AWARDS STUDENT Sahana Muthu, Zoha Gulzar Anushka Ojha, Vatsika Neelakandan Ayaz Ahmed Sriya Veerapaneni Haani Khurshid,	Dougherty Valley High Campolindo High SCHOOL Diablo Vista Middle Diablo Vista Middle Dougherty Valley High California High	Chevron, \$500 California Science & Engineering Fair California Science & Engineering Fair
Science Physical Science Physical Science CATEGORY Behavorial Science Behavorial Science Behavorial Science Behavorial Science Behavorial Science Behavorial Science Behavorial Science	10 12 GRADE 7 7 11 11 8	System with Self-learning Predictive Analytics for Late-Stage Amyotrophic Lateral Sclerosis (ALS) Patients Development of a Biodegradable Hybrid Inspired Paper Battery Powered by Carbon-Black with Origami Designs Applicable for Biomedical Smart Systems The Influence of Anthocyanin-Rich Foods and Cooling on the Digestibility of Cooked White Rice by A-Amylase SECOND PLACE TITLE Examining the seeds of Sterotypes Music to the Mind Diagnosing GERD based on reported symptoms after lifestyle changes. How VR Affects Creativity The Efficacy of Monosodium Glutamate as a Viable Fertilizer	Yizhou Wang, Yifan Shi Beatrice Roberge EAWARDS STUDENT Sahana Muthu, Zoha Gulzar Anushka Ojha, Vatsika Neelakandan Ayaz Ahmed Sriya Veerapaneni Haani Khurshid, Dimitri Liveris Serena Hicks,	Dougherty Valley High Campolindo High SCHOOL Diablo Vista Middle Diablo Vista Middle Dougherty Valley High California High Diablo Vista Middle	Chevron, \$500 California Science & Engineering Fair California Science & Engineering Fair
Physical Science Physical Science Physical Science CATEGORY Behavorial Science Behavorial Science Behavorial Science Behavorial Science Behovorial Science Behavorial Science Behavorial Science Behavorial Science	10 12 GRADE 7 7 11 11 8 8	System with Self-learning Predictive Analytics for Late-Stage Amyotrophic Lateral Sclerosis (ALS) Patients Development of a Biodegradable Hybrid Inspired Paper Battery Powered by Carbon-Black with Origami Designs Applicable for Biomedical Smart Systems The Influence of Anthocyanin-Rich Foods and Cooling on the Digestibility of Cooked White Rice by A-Amylase SECOND PLACE TITLE Examining the seeds of Sterotypes Music to the Mind Diagnosing GERD based on reported symptoms after lifestyle changes. How VR Affects Creativity The Efficacy of Monosodium Glutamate as a Viable Fertilizer Varied pH Levels in Cilantro Growth	Yizhou Wang, Yifan Shi Beatrice Roberge EAWARDS STUDENT Sahana Muthu, Zoha Gulzar Anushka Ojha, Vatsika Neelakandan Ayaz Ahmed Sriya Veerapaneni Haani Khurshid, Dimitri Liveris Serena Hicks, Amaya Jalal	Dougherty Valley High Campolindo High SCHOOL Diablo Vista Middle Diablo Vista Middle Dougherty Valley High California High Diablo Vista Middle Diablo Vista Middle	Chevron, \$500 California Science & Engineering Fair California Science & Engineering Fair

Biology	10	The Efficacy of Select Grasses in California and Drought Conditions	Shayaan Kashif	De La Salle High	CCC Water/Waste Water, \$100
Biology	11	Use CRISPR Technology to Develop Human Gene Enrichment Method for DNA Sequencing	Paige Zhong	Dougherty Valley High	Bio-Rad Laboratories, \$100
Biology	11	"Invasive Plant Growth: Resisting Herbicides and Surviving Under Stress"	Feyi Olatunji	Carondelet High	Dr. David Padgett Award, \$100
Biology	11	Antimicrobial Activity of Salicylic Acid Isomers	Aarush De	Dougherty Valley High	Chevron, \$500
Biology	12	Brucellosis Seroprevalence and Risk Factors Among High Risk Groups in	Ananya Pinnamaneni	Dougherty Valley High	·
Biology	12	Two Urban Sites in Kenya Utility of Variational Autoencoders for De Novo Multi-Class CT Organ Segmentation	Neel Kondapalli	Dougherty Valley High	
Engineering	7	The Freeway to Sustainability	Aditi Arora	Joaquin Moraga Intermediate	Naval Science Award
Engineering	7	Bridge Buster	Andrew Dea, Ethan Coburn, Nicolas Preas	St. Patrick School	
Engineering	8	Eco-friendly Drying Machine	Sahasra Chappidi, Carolyn Ren	Diablo Vista Middle	
Engineering	9	Designing A Portable Spectrophotometer to Determine The Specific Gravity of a Urine Sample in Order to Detect Kidney Dysfunction	Rohan Goyal	Monte Vista High	US Metric Association
Engineering	10	GetBackUp: Lower back care and posture control device for lumbar spondylosis	Shiraz Zahoori	Campolindo High	Dr. Robert Markinson Award, \$100
Engineering	10	Autonomous Surface Vessel to Assist with Watercraft Safety	Lucas Katz	Campolindo High	Mt. Diablo Amateur Radio Club, \$100 Tremsin Award, \$100 Naval Science Award, \$50
Engineering	10	The development of a soft assistive knee compression sleeve for stroke survivors with lower limb paralysis	Krishna Goteti	Dougherty Valley High	John Henry Award, \$100
Engineering	10	Miniature Hollow Fiber Bioreactors for Cartilage Tissue Engineering	Summer Chang	Campolindo High	Bio-Rad Laboratories, \$100 Regeneron Biomedical Science Award \$375
Engineering	11	Dear Menopause: Addressing Menopausal Hot Flashes through a Diagnostic and Self-Regulating System	Krisha Singhani	Monte Vista High	Kate Doherty Award, \$100
Environmental Science	7	Ocean Acidification	Ujjvala Sridhar, Neha Boban	Diablo Vista Middle	
Environmental Science	8	The effect of imidacloprid on honeybee learning ability	Ryan Zou	Windemere Ranch Middle	Martinez Refining Company, \$500
Environmental Science	10	The Effectiveness of a Fog Catcher	Pranathi Suserla	Dougherty Valley High	Naval Science Award, \$50
Environmental Science	11	Metals in Motion: Unveiling Soil Secrets for Ecosystem Resilience	Srishreya Arunsaravanakumar	Dougherty Valley High	
Environmental Science	11	Impact of Temporal Variability of Atmospheric River on California wildfire risk	Aiden Park	Dougherty Valley High	Ricoh USA, Inc.
Environmental Science	11	EcoSortAl: Smart Waste Segregation	Shivam Mohapatra, Akshat Singh	Dougherty Valley High	US Agency for International Development (USAID)
Environmental Science	12	A Compost-Face Off: Lomi vs. Traditional	Maddy Jerge	Carondelet High	Mt. Diablo Resource Recovery, \$250 NASA Earth System Science Award
Environmental Science	12	AquaRehab: Finding alternatives for Marine-Friendly Wastewater Treatment	Violet Le	Deer Valley High	CCC Water/Waste Water, \$200 National Oceanic & Atmospheric Administration Award
Environmental Science	12	Structure-Property Relations of Piezoelectric Materials and their Influence on the Piezoelectric Coefficient	Rishi Gopalasetty	Dougherty Valley High	Mt. Diablo Amateur Radio Club, \$100
Math/Computer Science	9	Al Phone Call	Adam Zheng	Campolindo High	
Math/Computer Science	9	Smart Fire Prevention System with Al	Michael Sun	Acalanes High	Gilbane, \$100
Math/Computer Science	10	FinRL: Deep Learning and Reinforcement Learning for Investing	Abhishek Jolad	Dougherty Valley High	
Math/Computer Science	10	Improving Recognition Models of Lost Dogs Using Machine Learning Techniques	Diego Kirsch	Las Lomas High	

Math/Computer Science	11	Illuminate: A novel approach for depression detection with explainable analysis and proactive prevention.	Aryan Agrawal	Dougherty Valley High	
Math/Computer Science	11	SOVAR: System of Visual Assistance and Recognition	Ken Huang	The Athenian School	
Math/Computer Science	11	Effective Resistance, Random Walk and Algorithms	Ruihan Zhang	The Athenian School	
Math/Computer Science	11	Using The Power of Machine Learning for Accurate Cancer Predictions	Devika Gopakumar	Dougherty Valley High	
Math/Computer Science	11	Can a neural network reduce false positives in breast cancer detection?	Kellen Hurrey	California High	
Math/Computer Science	11	Real-time Classification of Recyclables and Organic Materials Using Advanced Machine Learning	Prisha Marpu, Prasiddha Aravind	Dougherty Valley High & California High	
Math/Computer Science	11	GRIDOLA: A Resilient Linguistic Renewable Energy Grid Optimizer via Low-rank Approximations of Actor-Critic Algorithms	Surya Duraivenkatesh	Dougherty Valley High	
Math/Computer Science	11	SQLock: Preventing Unauthorized SQL Queries	Justin Wang	Dougherty Valley High	
Math/Computer Science	11	Enhancing Microdrone State Estimation: A Multi-Sensor Fusion Approach for Improved State Estimation in GPS Denied Environments	Yogya Mehrotra	Dougherty Valley High	
Math/Computer Science	11	Language Models for Bacteria Classification: From Pathogens to Probiotics	Anya Iyer	Dougherty Valley High	
Physical Science	8	High Impact	Sofia Seiden, Tyler Militar-Cross	St. Patrick School	
Physical Science	8	How Bird Wings Affect Flight	Ellie Moen, Allie Bauer	Diablo Vista Middle	Henkel Aerospace Highflyer, \$600
Physical Science	12	Green Synthesis and Scale Up of Binaphthol/Benzoquinone based Co- Crystals via Mechanochemistry	Siddarth Nagapudi	Dougherty Valley High	
·		WAGNS: A Study of X-Ray and Infrared Variability in Active Galactic			
Physical Science	12	Nuclei	William Lee	Deer Valley High	
•	12 12		William Lee Hanna Johnson	Deer Valley High Deer Valley High	
Science Physical		Nuclei Measuring the Cosmos: Identifying Pairs of Gravitationally Bound	Hanna Johnson	, ,	
Science Physical		Nuclei Measuring the Cosmos: Identifying Pairs of Gravitationally Bound Galaxies through Intergalactic Distance Calculations	Hanna Johnson	, ,	SPECIAL AWARD
Science Physical Science	12	Nuclei Measuring the Cosmos: Identifying Pairs of Gravitationally Bound Galaxies through Intergalactic Distance Calculations THIRD PLACE	Hanna Johnson	Deer Valley High	SPECIAL AWARD
Science Physical Science CATEGORY Behavorial	12 GRADE	Nuclei Measuring the Cosmos: Identifying Pairs of Gravitationally Bound Galaxies through Intergalactic Distance Calculations THIRD PLACE TITLE	Hanna Johnson AWARDS STUDENT Gitanjali Tummala,	Deer Valley High SCHOOL	SPECIAL AWARD
Science Physical Science CATEGORY Behavorial Science Behavorial	12 GRADE 8	Nuclei Measuring the Cosmos: Identifying Pairs of Gravitationally Bound Galaxies through Intergalactic Distance Calculations THIRD PLACE TITLE Dog-Log	Hanna Johnson AWARDS STUDENT Gitanjali Tummala, Stuti Goel	Deer Valley High SCHOOL Los Cerros Middle	SPECIAL AWARD
Science Physical Science CATEGORY Behavorial Science Behavorial Science	12 GRADE 8 12	Nuclei Measuring the Cosmos: Identifying Pairs of Gravitationally Bound Galaxies through Intergalactic Distance Calculations THIRD PLACE TITLE Dog-Log Stress, Surprise, and Salivary Cortisol: What Do We Actually Know?	Hanna Johnson AWARDS STUDENT Gitanjali Tummala, Stuti Goel Megan Kavanagh	Deer Valley High SCHOOL Los Cerros Middle Carondelet High	SPECIAL AWARD
Science Physical Science CATEGORY Behavorial Science Behavorial Science Biology	12 GRADE 8 12 7	Nuclei Measuring the Cosmos: Identifying Pairs of Gravitationally Bound Galaxies through Intergalactic Distance Calculations THIRD PLACE TITLE Dog-Log Stress, Surprise, and Salivary Cortisol: What Do We Actually Know? CancerGuard: Early Lung Cancer Detection with R-Guided Data Analysis	Hanna Johnson AWARDS STUDENT Gitanjali Tummala, Stuti Goel Megan Kavanagh Githaa Ramann Veda Addanki,	Deer Valley High SCHOOL Los Cerros Middle Carondelet High Windemere Ranch Middle	SPECIAL AWARD CCC Water/Waste Water, \$100
Science Physical Science CATEGORY Behavorial Science Behavorial Science Biology Biology	12 GRADE 8 12 7	Nuclei Measuring the Cosmos: Identifying Pairs of Gravitationally Bound Galaxies through Intergalactic Distance Calculations THIRD PLACE TITLE Dog-Log Stress, Surprise, and Salivary Cortisol: What Do We Actually Know? CancerGuard: Early Lung Cancer Detection with R-Guided Data Analysis Sustainable Car	Hanna Johnson AWARDS STUDENT Gitanjali Tummala, Stuti Goel Megan Kavanagh Githaa Ramann Veda Addanki, Anyoli Gupta Sakina Ahmad,	Deer Valley High SCHOOL Los Cerros Middle Carondelet High Windemere Ranch Middle Diablo Vista Middle	
Science Physical Science CATEGORY Behavorial Science Behavorial Science Biology Biology Biology	12 GRADE 8 12 7 7 8	Nuclei Measuring the Cosmos: Identifying Pairs of Gravitationally Bound Galaxies through Intergalactic Distance Calculations THIRD PLACE TITLE Dog-Log Stress, Surprise, and Salivary Cortisol: What Do We Actually Know? CancerGuard: Early Lung Cancer Detection with R-Guided Data Analysis Sustainable Car Hydrated Heroes	Hanna Johnson AWARDS STUDENT Gitanjali Tummala, Stuti Goel Megan Kavanagh Githaa Ramann Veda Addanki, Anyoli Gupta Sakina Ahmad, Sophie Jackman Amrit Bedi,	Deer Valley High SCHOOL Los Cerros Middle Carondelet High Windemere Ranch Middle Diablo Vista Middle Diablo Vista Middle	
Science Physical Science CATEGORY Behavorial Science Behavorial Science Biology Biology Biology Biology	12 GRADE 8 12 7 7 8 8	Nuclei Measuring the Cosmos: Identifying Pairs of Gravitationally Bound Galaxies through Intergalactic Distance Calculations THIRD PLACE TITLE Dog-Log Stress, Surprise, and Salivary Cortisol: What Do We Actually Know? CancerGuard: Early Lung Cancer Detection with R-Guided Data Analysis Sustainable Car Hydrated Heroes The Best Way To Disinfect Your Toothbrush	Hanna Johnson AWARDS STUDENT Gitanjali Tummala, Stuti Goel Megan Kavanagh Githaa Ramann Veda Addanki, Anyoli Gupta Sakina Ahmad, Sophie Jackman Amrit Bedi, Mariana Bron	Deer Valley High SCHOOL Los Cerros Middle Carondelet High Windemere Ranch Middle Diablo Vista Middle Diablo Vista Middle Diablo Vista Middle	CCC Water/Waste Water, \$100
Science Physical Science CATEGORY Behavorial Science Behavorial Science Biology Biology Biology Biology Biology Biology	12 GRADE 8 12 7 7 8 8 9	Nuclei Measuring the Cosmos: Identifying Pairs of Gravitationally Bound Galaxies through Intergalactic Distance Calculations THIRD PLACE TITLE Dog-Log Stress, Surprise, and Salivary Cortisol: What Do We Actually Know? CancerGuard: Early Lung Cancer Detection with R-Guided Data Analysis Sustainable Car Hydrated Heroes The Best Way To Disinfect Your Toothbrush Sweet Deception: Exposing Hidden Sugars in your Everyday Foods	Hanna Johnson AWARDS STUDENT Gitanjali Tummala, Stuti Goel Megan Kavanagh Githaa Ramann Veda Addanki, Anyoli Gupta Sakina Ahmad, Sophie Jackman Amrit Bedi, Mariana Bron Pratik Ganesh	SCHOOL Los Cerros Middle Carondelet High Windemere Ranch Middle Diablo Vista Middle Diablo Vista Middle California High	CCC Water/Waste Water, \$100
Science Physical Science CATEGORY Behavorial Science Behavorial Science Biology Biology Biology Biology Biology Biology Biology	12 GRADE 8 12 7 7 8 8 9 9	Measuring the Cosmos: Identifying Pairs of Gravitationally Bound Galaxies through Intergalactic Distance Calculations THIRD PLACE TITLE Dog-Log Stress, Surprise, and Salivary Cortisol: What Do We Actually Know? CancerGuard: Early Lung Cancer Detection with R-Guided Data Analysis Sustainable Car Hydrated Heroes The Best Way To Disinfect Your Toothbrush Sweet Deception: Exposing Hidden Sugars in your Everyday Foods Developing Machine Learning Models for Pneumonia Detection MRI Spy: Micro-structural Anomaly Detection in MRI scans of Patients	Hanna Johnson AWARDS STUDENT Gitanjali Tummala, Stuti Goel Megan Kavanagh Githaa Ramann Veda Addanki, Anyoli Gupta Sakina Ahmad, Sophie Jackman Amrit Bedi, Mariana Bron Pratik Ganesh Stephanie Lee	SCHOOL Los Cerros Middle Carondelet High Windemere Ranch Middle Diablo Vista Middle Diablo Vista Middle California High Campolindo High	CCC Water/Waste Water, \$100 CytomX, \$35
Science Physical Science CATEGORY Behavorial Science Behavorial Science Biology Biology Biology Biology Biology Biology Biology Biology Biology	12 GRADE 8 12 7 7 8 8 9 9 9	Measuring the Cosmos: Identifying Pairs of Gravitationally Bound Galaxies through Intergalactic Distance Calculations THIRD PLACE TITLE Dog-Log Stress, Surprise, and Salivary Cortisol: What Do We Actually Know? CancerGuard: Early Lung Cancer Detection with R-Guided Data Analysis Sustainable Car Hydrated Heroes The Best Way To Disinfect Your Toothbrush Sweet Deception: Exposing Hidden Sugars in your Everyday Foods Developing Machine Learning Models for Pneumonia Detection MRI Spy: Micro-structural Anomaly Detection in MRI scans of Patients with Alzheimer's Disease	Hanna Johnson AWARDS STUDENT Gitanjali Tummala, Stuti Goel Megan Kavanagh Githaa Ramann Veda Addanki, Anyoli Gupta Sakina Ahmad, Sophie Jackman Amrit Bedi, Mariana Bron Pratik Ganesh Stephanie Lee Krishna Sreeneel	SCHOOL Los Cerros Middle Carondelet High Windemere Ranch Middle Diablo Vista Middle Diablo Vista Middle California High Campolindo High Dougherty Valley High	CCC Water/Waste Water, \$100 CytomX, \$35
Science Physical Science CATEGORY Behavorial Science Behavorial Science Biology	12 GRADE 8 12 7 7 8 8 9 9 9 9	Nuclei Measuring the Cosmos: Identifying Pairs of Gravitationally Bound Galaxies through Intergalactic Distance Calculations THIRD PLACE TITLE Dog-Log Stress, Surprise, and Salivary Cortisol: What Do We Actually Know? CancerGuard: Early Lung Cancer Detection with R-Guided Data Analysis Sustainable Car Hydrated Heroes The Best Way To Disinfect Your Toothbrush Sweet Deception: Exposing Hidden Sugars in your Everyday Foods Developing Machine Learning Models for Pneumonia Detection MRI Spy: Micro-structural Anomaly Detection in MRI scans of Patients with Alzheimer's Disease Defying Gravity: The Amazing Cardiovascular System of Giraffes The Use of Recycled Oyster Shells in Undergoing the Process of	Hanna Johnson AWARDS STUDENT Gitanjali Tummala, Stuti Goel Megan Kavanagh Githaa Ramann Veda Addanki, Anyoli Gupta Sakina Ahmad, Sophie Jackman Amrit Bedi, Mariana Bron Pratik Ganesh Stephanie Lee Krishna Sreeneel Devika Nair	SCHOOL Los Cerros Middle Carondelet High Windemere Ranch Middle Diablo Vista Middle Diablo Vista Middle California High Campolindo High Dougherty Valley High Monte Vista High	CCC Water/Waste Water, \$100 CytomX, \$35

Biology	11	Gas After Drinking Milk? The Most Effective Method of Ingesting Lactase Enzyme to Combat Deficiency	Vivian Wang	Campolindo High	
Biology	11	Do SNP Genes Affect Chinese Demographics Through Thyroid Disorders?	Iris Fan	Monte Vista High	
Biology	11	Trust Your Gut!	Soumya Pradhan	Dougherty Valley High	
Biology	12	React Fast! Stress levels in an urban environment.	Madison O'Connell	Carondelet High	
Engineering	7	Triangular Truss vs Bridge Rectangular	James McVay	Joaquin Moraga Intermediate	Naval Science Award
Engineering	7	Electrified Drinks: Light It Up	Kayla Mshiu, Meliya Quidachay	St. John the Baptist	
Engineering	8	Recycled Building Materials	Beckett Hurrey	Iron Horse Middle	Gilbane, \$100
Engineering	9	Repurposing Cardboard at home using "Shapemaker"	Arav Uttarwar	Campolindo High	
Engineering	9	Seawater Battery	Vanshika Tyagi	Heritage High	
Engineering	9	Renewable Solar RC Analysis	Soumit Buddhala, Preetam Muppidi	Dougherty Valley High	
Engineering	10	Solar Evaporation: The Key Solution to Recovering Lithium from Brine	Mifay Liu	Miramonte High	Naval Science Award, \$50
Engineering	10	Reserve Energy Source from Water Power	Johnny Cumbelich	De La Salle High	CCC Water/Waste Water, \$100
Engineering	11	Glucoscan: A Non-Invasive Approach to Glucose Monitoring	Varnika Sirasala	Dougherty Valley High	Bio-Rad Laboratories, \$100 Diane Gelinser Award, \$100
Engineering	11	HygiGlow	Naren Venkat, Abhinav Gondesi	Heritage High	CCC Water/Waste Water, \$400
Engineering	11	Use of Coralline Algae for Decarbonization	Rohan Sachin, Hasith Kadiyala	California High	
Engineering	11	The behavior of a sensor-motor-processor robot for application in human-assistive robotics	Bhavana Maram	Dougherty Valley High	
Environmental Science	8	Solar Powered Water Desalination	Aarush Pandit, Aaryan Gowthaman	Diablo Vista Middle	
Environmental Science	11	Integrated Sustainable Water Purification and Disinfection System (ISWPDS): An Advanced SODIS-based Approach for Holistic Removal of Multi-Contaminant Impurities in Potable Water Systems	Pranav Saravanan	Dougherty Valley High	
Math/Computer Science	9	Early Diagnosis of Diseases from Skin Scans Using Machine Learning	Ariel Liu	Dougherty Valley High	
Math/Computer Science	9	Study Buddy	Mislav Benko	Campolindo High	
Math/Computer Science	10	Using Machine Learning and Computer Vision to Predict Poses in Martial Arts	Vincent Aquino	Dougherty Valley High	
Math/Computer Science	11	Using Sensor Technology On Leaves For Analyzing Plant Health And Identifying Fixable Issues	Shreyas Potturu	Dougherty Valley High	
Physical Science	8	How the Salinity of Water Affects its Ability to Dilute Acid	Yusuf Keen, Ayush Sarkar	Diablo Vista Middle	
Physical Science	8	Aerodynamic Mechanic	Dez Panlilio	St. Patrick School	
Physical Science	12	The Milky Way and Beyond: Globular Clusters	Daejah Matier	Deer Valley High	Katherine Johnson Award, \$100
Physical Science	12	Gleaming Distance	Pamela Suarez	Deer Valley High	
		FOURTH PLACE	AWARDS		
CATEGORY	GRADE		STUDENT	SCHOOL	SPECIAL AWARD
Biology	9	Creating The Right Microenvironment For Biologically Engineering a Kidney.	Madeline Carpenter	Campolindo High	
Biology	9	What if Cancer isn't your Fault	Rahul Gopalasetty	Dougherty Valley High	
Biology	11	Regrowing Lives: One Cell at a Time	Varun Challa	Dougherty Valley High	Society for In-Vitro Biology
Math/Computer Science	10	Skin Cancer Scan	Spoorthi Bedadam	Dougherty Valley High	

Math/Computer Science	10	QueryCraft: AI - Powered Question Generator	Mahati Mettu	Dougherty Valley High	
Math/Computer Science	10	My Learning Assistant - Al enabled language therapy for neurodiverse students	Ilina lyer	Monte Vista High	