TOP 300 SEMIFINALISTS 2016

About Broadcom MASTERS

Broadcom MASTERS® (Math, Applied Science, Technology and Engineering for Rising Stars), a program of Society for Science & the Public, is the premier middle school science and engineering fair competition.

Society-affiliated science fairs around the country nominate the top 10% of sixth, seventh and eighth grade projects to enter this prestigious competition. After submitting the online application, the top 300 semifinalists are selected. Semifinalists are honored for their work with a prize package that includes an award ribbon, semifinalist certificate of accomplishment, Broadcom MASTERS backpack, a Broadcom MASTERS decal, a one year family digital subscription to *Science News* magazine, an Inventor's Notebook and copy of "Howtoons" graphic novel courtesy of The Lemelson Foundation, and a one year subscription to Mathematica+, courtesy of Wolfram Research. In recognition of the role that teachers play in the success of their students, each semifinalist's designated teacher also will receive a Broadcom MASTERS tote bag and a one year subscription to *Science News* magazine, courtesy of KPMG.

From the semifinalist group, 30 finalists are selected and will present their research projects and compete in hands-on team STEM challenges to demonstrate their skills in critical thinking, collaboration, communication and creativity at the Broadcom MASTERS finals. Top awards include a grand prize of $25,000, trips to STEM summer camps and more.

Broadcom Foundation and Society for Science & the Public thank the following for their support of 2016 Broadcom MASTERS:

- Samueli Foundation
- *Science News* for Students
- Allergan
- Computer History Museum
- Deloitte.
- KPMG
- The Lemelson Foundation
- Robert Wood Johnson Foundation
- Wolfram Research
- Affiliated Regional and State Science & Engineering Fairs
- Parents, teachers and mentors of the 2,343 Broadcom MASTERS entrants

2016 Broadcom MASTERS Semifinalists

Students are listed in order by home state, fair, and name of school based on information provided by each student in their entry. Students listed under the state fair may also have qualified through their regional fair. Students conducting team projects were eligible, but each student individually entered and was judged based on the submitted written entry. The grade listed for each student is from Spring 2016. ***Semifinalists nominated by regional and state fair.**

Alabama

USAL03

Oakwood Adventist Academy
Jayden Elliot Vanterpool (7th Grade)
Madison, Alabama
Silver Nanoparticles Can Decrease the Function of Enzymes in Pathogenic Bacteria

USAL50

East Limestone High
Jackson MacMillan Stapleton (8th Grade)
Athens, Alabama
Farmers Meet Drones

Arizona

USAZ03

Agua Caliente Elementary School
Karah M. Mayer (6th Grade)
Tucson, Arizona
How "Sense"ible Is Your Spelling? The Effect of Auditory and Tactile Senses on the Ability to Spell 10-Letter Words

Dodge Middle School
Addamae Elizabeth Root (8th Grade)
Tucson, Arizona
Ocean Acidification Negatively Affects Seashells

Doolen Middle School
Ava Isabelle Galbraith (7th Grade)
Tucson, Arizona
Landscape Shifts: Revegetation After Catastrophic Fire with Climate Change

Emily Gray Junior High School
Emily Lynn Ignatoff (7th Grade)
Tucson, Arizona
Locked Out! Does Frustration and Time Limitation Affect Accuracy?

Vail Academy and High School
Matthew Lane Fosdick (8th Grade)
Corona, Arizona
The Creation of a Superior Hybrid Sorting Algorithm Based on the Time-Efficiency of Heapsort, Quicksort and Mergesort Algorithms

USAZ50

Arizona College Prep – Oakland
Anish Puri (6th Grade)
Chandler, Arizona
Heat of Reaction – The Effect of the Strength of the Acid to Base Ratio on the Heat Generated by the Reaction (Enthalpy of Neutralization)

BASIS Chandler
Anish Raju (8th Grade)
Chandler, Arizona
Phi and Fibonacci: Golden Analysis

Gowan Science Academy
John Andrew Boelts, Jr. (6th Grade)
Yuma, Arizona
CO2 = The X Factor

Willis Junior High School
Chloe Liliana Leff (8th Grade)
Chandler, Arizona
The Effect of Adsorptive Strength on the Rf Values of the Pigments in Leaves

Arkansas

USAR03

Bergman Middle School
Lane M. King (6th Grade)
Harrison, Arkansas
Dare to Defy Gravity

Fulbright Junior High School
Arthi Krishna (8th Grade)
Bentonville, Arkansas
Science Saves Art!: What Is the Effect of the Concentration of Gold/Silver Nanoparticles on the Color Shown on Stained Glass?

USAR04

Rural Special School
Corbin Ilias Osburn (8th Grade)
Mountain View, Arkansas
Fire Safety

USAR05

LISA Academy West
Sreelakshmi Sai Raghav (7th Grade)
Little Rock, Arkansas
Healthy Crops from Recycled Household Waste – Combining Vermicompost and Hydroponics

California

USCA01

Fairmont Private School
Sasha Leila Ronaghi (8th Grade)
Irvine, California
Solving Ethiopia's Water Crisis: Using a Water Filter to Remove Excess Fluoride

Fairmont Private School
Ethan Sun Zuo (6th Grade)
Irvine, California
The Effect of Parachute Size and Number on Spacecraft Acceleration During Descent

Jeffery Trail Middle School
Swethasai Palakur (7th Grade)
Irvine, California
Were Micelles or Vesicles Really the First Protobionts: A Study on Abiogenesis and the Origins of Life

Ladera Ranch Middle School
Suhina Sharma (7th Grade)
Ladera Ranch, California
TempBot – Device Preventing Febrile Seizures and Other Fatal Complications by Monitoring Sudden Rise in Body Temperatures

Rancho San Joaquin Middle School
Alexis Hannah Kim (8th Grade)*
Irvine, California
The Effect of Ascorbic Acid and Phosphate on Copper Corrosion

Turtle Rock Elementary
Emily Autumn Hsi (6th Grade)*
Irvine, California
Increasing the Longevity of Cut Roses

Vista Verde
Marta Meinardi (7th Grade)
Irvine, California
The Effects of Pollution on Pyrocystis fusiformis

Vista Verde
Hiromi Kay Nishida (7th Grade)
Irvine, California
Artificial Hormones Disrupt Noncompetitive Root Growth Patterns in Sibling Plants

Vista Verde
Clara Rose Szalay (7th Grade)
Irvine, California
Artificial Hormones Disrupt Noncompetitive Root Growth Patterns in Sibling Plants

USCA02

Alexander Fleming Middle School
Cristofer Lortz (7th Grade)
Lomita, California
Oceanic Power – Oscillating Water Column Generator

Chandler School
Mohona Roy Ganguly (7th Grade)
Altadena, California
Measurement of Potassium in Four Varieties of Rice Using Atomic Emission Spectroscopy

Chandler School
William Alexander Labrador (8th Grade)
Pasadena, California
An Inexpensive Radiation Detector and Its Application to Cosmic Rays and Environmental Radiation

Henry E. Huntington Middle School
Nathan K. Deng (8th Grade)*
San Marino, California
Drop by Drop: Manipulating the Surface Tension of Water to Find the Best Way of Cleaning

	Henry E. Huntington Middle School **David Shihong Gao (7th Grade)** San Marino, California *Drosophila melanogaster Addiction to Sugar*
	Mirman School **Hunter Bren (6th Grade)** Los Angeles, California *Math in Ballistics*
	Mirman School **Xavier Takacs Csato (6th Grade)** Santa Monica, California *Radiation Investigation: What's in YOUR Fish?*
	Ridgecrest Intermediate School **Suraj Kumar Anand (8th Grade)** Rancho Palos Verdes, California *Conserved Regions of Coagulation Factors III, VIII, and XII's Percent, Location, and Function in Diverse Species*
	Westridge School For Girls **Sophie Quynh Carter (8th Grade)** Altadena, California *Indoor Navigation Using Magnetic Fields*
USCA03	Carden School of Fresno **Mandika Niven Swartz (7th Grade)** Fresno, California *Is it Possible to Generate Electricity from Wastewater?*
	Clovis Online School **Natalie Celeste White (8th Grade)*** Sanger, California *Cosmic Rays: Determination of the Relative Contributions from the Sun and the Universe*
USCA04	Lammersville Elementary School **Yahvin Gali (6th Grade)** Mountain House, California *Shellfish to the Rescue! Reducing Ocean Acidification by Recycling Bivalve Shells*
	Winston Churchill Middle School **Albert W. Qin (8th Grade)** Folsom, California *An Application of Artificial Neural Networks to Decentralized Cooperative Navigation*
USCA05	Carmel Valley Middle School **Rachana Madhukara (8th Grade)** San Diego, California *Devising a Secure and Efficient Hybrid Cryptosystem*

High Tech Middle
Samuel Bennett Kahn (8th Grade)
San Diego, California
Post-Fire Regeneration in Coastal Sage Scrub: 2nd Year of Study

USCA05

The Rhoades School
Katrina Griffin Ordway (8th Grade)*
Carlsbad, California
Effects of Quercus engelmannii on Native vs. Invasive Plant Species

Challenger School – Shawnee
Adishree Ghatare (8th Grade)*
San Jose, California
A Software Application as a Learning Platform for Increasing Memory Retention of Definitions of Words

Challenger School – Strawberry Park
Akhilesh Varadan Balasingam (7th Grade)*
San Jose, California
Galloping Prisms: On the Optimal Design of a Novel Aeroelastic Energy Harvester for Remote Environmental Sensing

Challenger School – Strawberry Park
Pujita Srilalitha Tangirala (6th Grade)*
Los Gatos, California
Got Antioxidants? Using Chemiluminescence to Study the Effect of Adding Milk or Sugar on the Antioxidant Level of Tea

Challenger School – Sunnyvale
Shruti Sridhar (8th Grade)
Sunnyvale, California
A Novel Sensor-Based Device to Detect Heatstroke and Dehydration

Granada Islamic School
Ahmad Ismail (6th Grade)
Santa Clara, California
Yeast Busters: Stopping Fungus in Its Tracks with Antifungal Medicine

Joaquin Miller Middle School
Milan Ganai (8th Grade)
San Jose, California
Wearable Therapeutic Device with Bluetooth for Elderly Sarcopenia Patients and Caregivers

John F. Kennedy Middle School
Athena F. Fung (8th Grade)
Cupertino, California
A Bluer Ocean: Replacing Microplastics with Water-Soluble Bioplastics

Stratford Middle School
Adarsh Sairam Ambati (6th Grade)*
San Jose, California
A Smart, Low Cost, Social Network Connected, Community Sprinkler System (IOT)

	Stratford Middle School **Anousha Anand Athreya (6th Grade)** San Jose, California *The Effect of Organic Dye on Dye-Sensitized Solar Cell Efficiency*
	Stratford Middle School **Aalok Nital Patwa (7th Grade)** San Jose, California *Do I Grind? A Wearable System that Detects Bruxism Ahead of Its Effect on Teeth*
	The Harker School **Cynthia Chen (8th Grade)** Cupertino, California *A Novel Method for Reducing Water Consumption in Germinating Seeds*
	The Harker School **Aarzu Gupta (8th Grade)** San Jose, California *A Test of the Mutagenic and Carcinogenic Potential of Nicotine-Free Electronic Cigarette Additives*
	The Harker School **Maya Shukla (8th Grade)** Los Altos, California *A Test of the Mutagenic and Carcinogenic Potential of Nicotine-Free Electronic Cigarette Additives*
USCA08	Diablo Vista Middle School **Sean Jinxiang Li (7th Grade)** Danville, California *Grey Is the New Blue: Converting Greywater into a Usable Resource for Homes and Families*
	Diablo Vista Middle School **Aditi S. Raju (7th Grade)** San Ramon, California *Grey Is the New Blue: Converting Greywater into a Usable Resource for Homes and Families*
	Iron Horse Middle School **Siddhant Sharma (8th Grade)** San Ramon, California *Traffic Signals Using the Raspberry Pi*
	Windemere Ranch Middle School **Sanjita Pamidimukkala (7th Grade)** San Ramon, California *Paving the Path to a Closed-Loop Artificial Pancreas System*
USCA09	Mission Valley Elementary School **Aryansh Shrivastava (6th Grade)** Fremont, California *Microcontroller-Based Bionic Eye for the Blind*

NEA Community Learning Center
Shino Kawazu (7th Grade)
Alameda, California
The Effect of the Position of Arms on How Well You Execute a Pirouette
Stratford Middle School

Shreya Ramachandran (7th Grade)*
Fremont, California
The Effect of Soap Nut Grey Water on the Environment (Soil and Plants: Year 2)

USCA13

Alcott Elementary
James Dana (6th Grade)
Riverside, California
A Wind Tunnel to Test for the Best Aerodynamic Characteristics for Flight on Mars

Riverside STEM Academy
Alec Alexander Balandin (8th Grade)
Riverside, California
How Does Graphene Implanted in Thermal Paste Affect its Heat Conduction Property?

USCA50

Bridges Charter School
James Lee Pinto (8th Grade)
Simi Valley, California
Did Juvenile Spinosaurids Spend Time in the Ocean?

Jacoby Creek School
Erin Kathleen Lamphear (8th Grade)
Arcata, California
A Spatial and Temporal Comparison of Sound Levels in a Rural and Urban Interface

Lee Vining Elementary School
Ellery Barngrove McQuilkin (6th Grade)
Lee Vining, California
Supercool Streams: Flowing with Frazil

Medea Creek Middle School
Dhruv Naresh Aggarwal (8th Grade)
Oak Park, California
Wi-Tricity: Wireless Electricity Using Resonant Inductive Coupling

Rio Bravo Greeley Junior High
Jensen Lee Boyt (7th Grade)
Bakersfield, California
Testing D3O: Impact Padding Effectiveness in Football Helmet Technology

The Rhoades School
Alexandra Pola Orczyk (7th Grade)
Escondido, California
Investigating Impacts of Human Intrusion on Lottia gigantea Tide Pool Populations

USCA79

La Colina Junior High School
Gina Sarah Shapiro (8th Grade)
Santa Barbara, California
*Blink! A Study of Blink Rates While Using Computer Devices with Different Screen Sizes***Colorado**

Colorado

USCO02

Miller Middle School
Eliot Townsend Wright (7th Grade)*
Durango, Colorado
UV/HNO3 Deamination/CPD Mutagenesis in Antibiotic-Resistant Monera with Proteomic Analysis

USCO04

North Middle School
Kathryn Tsi-Pak Kummel (7th Grade)*
Colorado Springs, Colorado
All Spruced Up: The Causes and Consequences of Spruce Invasion into Aspen Canopies

USCO09

Flagstaff Academy
Julia Bronte Curd (8th Grade)
Longmont, Colorado
Proteins of the Body and Their Relation to Cancer Tumors

Southern Hills Middle School
Anudeep Golla (8th Grade)*
Broomfield, Colorado
Seeking Predictability Trapped in the Midst of the Chaos of the Mandelbrot Set

Summit Middle School
William Jacob Dienstfrey (8th Grade)
Louisville, Colorado
Optical Illusions: Contrast Induced Asynchrony

Summit Middle School
Sophie Mixon Reeves (8th Grade)
Boulder, Colorado
Cloud Chambers: A More Efficient and Easy Way to Conduct Radon Tests in Homes

USCO10

Ben Franklin Academy
Priya Treasa Kodenkandath (8th Grade)
Highlands Ranch, Colorado
Veggie Tales: Can Vegetables Soften Water?

Challenge School
Siddarth Ijju (8th Grade)
Aurora, Colorado
UAV-Emergency Response: Building an Autonomous Quadcopter for Emergency Response

Challenge School
Emhyr Subramanian (8th Grade)*
Aurora, Colorado
A Study of Super-Absorbent Polymers and Their Effectiveness in Organic Waste Extraction

Connecticut

USCT50

Middlebrook Middle School
Anika Nandini Bhagavatula (7th Grade)
Wilton, Connecticut
Banana Peels: Second Life as a Water Purifier

Saint Joseph School
Bradley Justin Kerr (8th Grade)
Danbury, Connecticut
Influence of Climate Change on the Lobster Population in Buzzards Bay, Massachusetts: Implications for Long Island Sound

Saint Martha School
Stephen David Rougeot (7th Grade)
Enfield, Connecticut
Si High, Low, or No: Algae Where Do You Want to Grow?

Delaware

USPA03

Millsboro Middle School
Benjamin Nguyen Koly (6th Grade)
Millsboro, Delaware
Edible Halophytes for Coastal Permaculture Gardening

Florida

USFL01

Hill Gustat Middle School
Rohin Patel (8th Grade)*
Sebring, Florida
Fishy Business: Seafood Authentication by DNA Bardcoding

USFL05

Canterbury School
Maya Sruti Chandar (6th Grade)*
Fort Myers, Florida
The Effects of Ultrasound Waves vs. Laser Beams on the Regrowth of Lumbriculys variegatus (A Novel Study)

Crestwell School
Colton Giovanni Novella (8th Grade)
Fort Myers, Florida
Electromagnetic Fields and the Effects on Chromosomal Development and Mutations in Drosophila melangoster

USFL06

Saint Andrew's Episcopal Academy
Jack Hinton Krasulak (7th Grade)*
Stuart, Florida
Mitigating the Effects of IED Explosion Through Novel Hull Design

USFL07

Okaloosa STEMM Academy
Ethan Robert Lindsay (6th Grade)
Niceville, Florida
Real Life Terminator Skin? Measuring Various Polymers' Cure Rate, Hardness, and Ability to Heal Holes

Okaloosa STEMM Academy
Mikayla Lindsay (8th Grade)*
Niceville, Florida
Self Folding Origami

USFL08

Abraham Lincoln Middle School
Anjana Balachandar (6th Grade)
Gainesville, Florida
Is Your Water Swell? Or Does Your Water Smell? Abraham Lincoln Middle School

Janani Sarjana Kumaran (6th Grade)
Gainesville, Florida
Which Material Makes the 'Coolest' Insulator

Abraham Lincoln Middle School
Brindha Priya Rathinasabapathi (8th Grade)
Gainesville, Florida
Arsenic in Rice: Can Glutathione or Wollastonite be Used to Reduce Arsenic Contamination in Rice?

Howard Bishop Middle School
Maya Oli (7th Grade)
Gainesville, Florida
Pharma Water II: Development of an Effective Personalized Water Filter to Remove Pharmaceutical Drugs in Drinking Water

USFL09

Franklin Academy – Pembroke Pines
Janae Alana Simpson (7th Grade)
Miramar, Florida
How Does Salt Affect Hydrogen Gas Produced in Electrolysis?

New River Middle
Kevin Daniel Fiorillo-Berger (8th Grade)*
Hollywood, Florida
Protective Robotic Anti-Accident Operational System Kid Care – (PRAOS KC)

USFL10

Julia Landon College Prep
John Blake Caven (7th Grade)
Jacksonville, Florida
Exploring Machine Learning: The Effect of a Genetic Algorithm on Lacrosse Simulation Gameplay

San Jose Catholic School
Andrew James Horkan (7th Grade)
Jacksonville, Florida
Torrefaction: Turning Biomass into Alternative Energy

USFL12

Lakeland Montessori Middle
Amelia Johanna Keriazes (7th Grade)
Lakeland, Florida
Bald Eagle Nest Fidelity in Natural, Agricultural and Urban Land Types

USFL13

Hoover Middle School
Asher Benjamin Wieder (7th Grade)
Melbourne Beach, Florida
Which Luring Method Will Attract a Pterois voiltans to a Specific Area for Capture? A Yellow Jig Head, a Stationary Lead Fishing Spoon, or a Blinking Blue Strobe Light?

Stone Magnet Middle School
Elissa Tegan Bell (8th Grade)*

West Melbourne, Florida
*A Comparison of the Antimicrobial Properties of Farmed Shrimp and Wild Shrimp on Gram Positive Bacteria*USFL15 Aventura Waterways K–8

Ethan Zvi Levy (8th Grade)*
Miami, Florida
Comparing Pulsatile and Non-Pulsatile Left Ventricular Assist Devices (LVAD)

Highland Oaks Middle School
Michael Noah Odzer (7th Grade)
North Miami Beach, Florida
A Sound Analysis: Using Sonar to Quantify the Relationship of Predator and Prey in the Coral Reef Habitat and How that Relationship Impacts Reef Health

Nautilus Middle School
Diego Lequio Marques (6th Grade)
Miami Beach, Florida
Fluorescent vs. LED Lights

Norman S. Edelcup Sunny Isles Beach K–8
Isabela Victoria Perdomo (7th Grade)*
Miami Beach, Florida
Cleaner Bottoms: An Environmentally Friendly Method of Reducing Barnacle Growth and Improving the Quality of Our Waterways Using Ultrasonic Waves!

Winston Park K-8 Center
Lucas Javier Carbajal (8th Grade)
Miami, Florida
Using Plant Products with TIO2 Nanoparticles in Dye Sensitized Solar Cells

Youth Co-Op Charter School
Victor Manuel Arminana (8th Grade)
Hialeah Gardens, Florida
The Effects of Caffeine on Phaseolus lunatus

USFL17

Avalon Middle School
Monet Thérèse Jowers (8th Grade)*
Orlando, Florida
Mangrove Bioprospecting for Endophytic Antibiotic Potential

Florida Virtual School
Uma Alath Menon (8th Grade)*
Winter Park, Florida
The Ferocious Yellow Dragon: Citrus Greening Disease

USFL21

Alice B. Landrum Middle School
Taylor Jaydn Kaminsky (8th Grade)*
Ponte Vedra Beach, Florida
The Realignment of Circadian to Ultradian Rhythms in Arabidopsis thaliana: An Investigation into Monophasic vs. Polyphasic Photoperiods

Fruit Cove Middle School
Virginia Annabelle Peery (8th Grade)
St. Johns, Florida
Photochemistry: Accelerating the Ionic Conversion of Iodine to Iodide Utilizing the Electromagnetic Spectrum While Comparing Objective to Subjective Data Collection

	Patriot Oaks Academy **Rishabh Singh (8th Grade)*** St. Johns, Florida *Contactless Brakes*
USFL26	Maclay School **Madeleine Brooke Roberts (8th Grade)*** Tallahassee, Florida *Cryptic Cryptocurrency: A Statistical Analysis of Possible Factors Driving the Value of Bitcoin*
USFL27	Williams Middle Magnet School **Aarush Prasad (7th Grade)** Tampa, Florida *Can Algae Save the World?*
USFL28	Johnson Middle School **Charles Foster Pepin (8th Grade)** Melbourne, Florida *The Rate Law for the Decomposition of Hydrogen Peroxide Using Yeast as a Catalyst*
	Sculptor Charter School **Kyle Wilson Bramblett (8th Grade)** Titusville, Florida *Where is the Optimal Placement of Hard Shell Clams and Eastern Oysters, Based on Salinity Levels, to Maximize Filtration of Pollutants and Improve the Water Quality of Indian River Lagoon?*
USFL29	A.D. Henderson University School **Helen Frances Peluso (7th Grade)*** Boynton Beach, Florida *Can Confidence in One's Own Short-Term Memory be Faulted by the Introduction of Peer Pressure in a Factually Based, Test-Type Scenario?*
	A.D. Henderson University School **Devin Reed Willis (7th Grade)*** Boca Raton, Florida *An Economically Effective Platform for Cellular Experiments at Microscopic Precision*
USFL31	Saint Edward's School **Olivia Jane Lazorik (8th Grade)*** Fort Pierce, Florida *Climate Change Problem: The Effect of Ocean Acidification on the Growth and Coloration of Lysmata wurdemanni*
	Saint Edward's School **Clara Grace Martin (8th Grade)*** Vero Beach, Florida *The Effect of Oscillation Amplitude on the Voltage Produced by an Oscillating Water Column*
	Storm Grove Middle School **Griffin Michael Wagner (8th Grade)** Vero Beacch, Florida Impact of Chlorophyll Concentration Levels on the Proliferation of Vibrio fischeri

USFL32

Pine View School
Maximilian Strom Carey (6th Grade)
Sarasota, Florida
Physiologic Response of Metastatic Prostate Cancer Patients to Induction Therapy with Gonadotropin-Releasing Hormone Antagonists

USFL50

Challenger K-8
David Paul Marquis (7th Grade)
Spring Hill, Florida
Reducing the Risk of Soil Liquefaction Through Soil Improvement

Pine Ridge Middle School
Madeline Grace Mair (7th Grade)
Naples, Florida
Disposable Diapers: Are You Really Getting what You Paid for?

West Shore Junior/Senior High School
Kishen Mitra (8th Grade)
Satellite Beach, Florida
Do Exercise Levels Affect Post-Concussion Recovery?

Georgia

USGA03

The Westminster Schools
Ananya Lakshmi Ganesh (8th Grade)*
Sandy Springs, Georgia
Bruxism: Using Myoelectric Signals to Treat a Common Health Problem

USGA06

Sola Fide Home School
Rebekah Grace Dorminy (7th Grade)
McDonough, Georgia
Effects of Mined Humates on Ocimum basilicum var. citriodora

USGA13

Hopewell Middle School
Natasha Shiv Havanur (8th Grade)
Alpharetta, Georgia
Fabric Flammability

USGA50

Early County Middle School
Davia Elizabeth LeXin Allen (8th Grade)
Blakely, Georgia
Comparing Three Different Vegetable Protein Flours as Additives to Increase the Efficiency of Food Waste as a Feed for Black Soldier Fly Larvae

Hopewell Middle School
Ashleigh Madison Hays (8th Grade)
Milton, Georgia
The Effect of Chlorine Pool Water on the Human Tooth

The Westminster Schools
Daven Raymond Yadav (8th Grade)
Atlanta, Georgia
Bruxism: Using Myoelectric Signals to Treat a Common Health Problem

Hawaii

USHI04

Waimea Canyon Middle School
Marcus James Schultz (8th Grade)
Kekaha, Hawaii
Finding the Best Seawall

USHI05

Hilo Intermediate School
Alexandra Keunwha Kim-Lee (8th Grade)
Hilo, Hawaii
Sour Coffee

Waiakea Intermediate School
Haruna Tomono (8th Grade)
Hilo, Hawaii
Uneven Heating of Foods Through the Use of a Microwave Oven

USHI06

S.W. King Intermediate School
Mariko Okihiro Quinn (8th Grade)
Kaneohe, Hawaii
Not Dead Yet – Coral Bleaching Recovery Kaneohe Bay

Idaho

USUT07

Teton Middle School
Mason Joseph Moore (8th Grade)
Felt, Idaho
Locational Seismic Vibrations in Black Sand Pool

Illinois

USIL01

Franklin Fine Arts Center
Omar Majzoub (8th Grade)
Chicago, Illinois
Aerodynamics of Airfoils

Skinner North Classical School
Anagha Aneesh (8th Grade)
Chicago, Illinois
Killing Cancer: Can Melatonin Fight Cancer?

USIL02

Good Shepherd Lutheran
Reagan Hailee Guerra (8th Grade)
Maryville, Illinois
Bloodstain Pattern Analysis: Accuracy of the Point of Origin Calculation

USIL04

Franklin Middle School
Varsha Viswanathan Iyer (8th Grade)
Springfield, Illinois
Heat is Power: Harnessing Low-Grade Waste Heat Through the Thermo-Galvanic Effect in a Thermo-Galvanic Cell

Southeastern Jr./Sr. High
Faith Grace Miller (8th Grade)
Augusta, Illinois
Recycling Greywater: The Effect of Greywater on Zea mays and Planaria maculata

USIL05
Wood Oaks
Sarosh N. Nagar (8th Grade)
Northbrook, Illinois
Growth Acceleration: It's All GA!

Indiana

USIN03
Castle North Middle School
Ankush Kundan Dhawan (8th Grade)
Newburgh, Indiana
Magic Sand: A Novel Graphene Oxide-Based Water Filtration System

USIN04
Summit Middle School
Rebecca Jennifer Luckey (7th Grade)
Fort Wayne, Indiana
The Effects of Practical Heat Treatment on Polylactic Acid

USIN50
Montessori Children's Schoolhouse
Zayn Ahmed Shareef (6th Grade)
Munster, Indiana
Investigation of a Vertical Axis Wind Turbine Design

Iowa

USIA50
Merrill Middle School
Ashton Michael Belknap (6th Grade)
Des Moines, Iowa
Who's Watching You Shop?

Kentucky

USKY02
Saint Francis of Assisi Catholic School
Tess Katherine Schrenger (6th Grade)
Louisville, Kentucky
Investigating the Toxicity of Rubber Playground Mulch

USKY50
Saint Francis of Assisi Catholic School
Elizabeth Michelle Gallagher (7th Grade)
Louisville, Kentucky
Identifying and Exploring Methods of Extracting Oxygen from Lunar Regolith

Louisiana

USLA01
Glasgow Middle School
Siyuan Feng (7th Grade)
Baton Rouge, Louisiana
Can Leaves Tell the Air Quality?

USLA02
Caddo Middle Magnet
Ashini A. Modi (6th Grade)*
Shreveport, Louisiana
Dark Matter: The Hidden Universe

USLA08
John Curtis Christian School
Rachel Michelle Pizzolato (6th Grade)
Metairie, Louisiana
Can a Modified Windmill Generate Electricity in an Interstate Traffic Setting?

Maryland

USMD01
Saint John the Evangelist School
Santiago Stone (8th Grade)
Odenton, Maryland
What a Difference a Floor Makes: Alternative Flooring for the Impoverished

USMD02
Oakdale Middle School
Divina Rakesh Bhatia (7th Grade)
Ijamsville, Maryland
Analysis of Gluten Content in Various Flours and Gluten's Effects on Celiac Disease

USMD03
Roberto Clemente Middle School
Medha Sri Kotti (8th Grade)
Clarksburg, Maryland
The Thermodynamics of Hurricanes

Roberto Clemente Middle School
Sonia Victoria Stan (7th Grade)
Gaithersburg, Maryland
Hydrophobicity and Hydrophilicity of Natural and Artificial Surfaces

Takoma Park Middle School
Shreeya Raj Khurana (8th Grade)
Potomac, Maryland
Geomagnetic Storms: A Study of Relationships Between Geomagnetic Storms and the Interplanetary Magnetic Field, and Monitoring Geomagnetic Storms in the Ionosphere with GPS Errors

USMD06
Dunloggin Middle School
Annie Liu (8th Grade)
Ellicott City, Maryland
Do Corrosive Substances Really Rust Your Nails?

Saint Joseph School Fullerton
Sienna Nicole Fink (8th Grade)
Perry Hall, Maryland
When Your Christmas Tree Gets Drier, It Increases the Chance of Fire

Massachusetts

USCA05
The Rhoades School
Alexa Qing Lan Kalei Infelise (8th Grade)
Lexington, Massachusetts
Impacts of the Decoy Effect on Promoting Positive Choices in an Academic Setting

USMA01
Heath School
Elinor Rosen (6th Grade)
Brookline, Massachusetts
Early Warning System for Preventing Injuries from Falling Branches in Winter

USMA02
Carlisle Public School
Amanda Lan Wang (8th Grade)
Carlisle, Massachusetts
Can a Smartphone Detect Adulterated Edible Oil

USMA06

Boston Latin School
Nadine Han (7th Grade)*
Boston, Massachusetts
Determining Wildfire Risk Using Satellite Data

Boston Latin School
Lienna Peng (8th Grade)*
West Roxbury, Massachusetts
Maximization of Biofuels from Seaweed Biomasses

Minnesota

USMN04

Oak-Land Jr. High
Max J. Vogel (8th Grade)*
Bayport, Minnesota
Got Gas V2: A Follow-up Investigation into the Efficiency of Ethanol

USMN07

Friedell Middle School
Supriya Ann Roy (6th Grade)*
Rochester, Minnesota
Just the Right Combination

John Adams Middle School
Noah Thomas Eggebraaten (6th Grade)*
Rochester, Minnesota
A Study of the Use of Aeroponics to Produce Food in a Space Enviorment

USMN08

Al-Amal School
Emmarah Qureshi (8th Grade)
Blaine, Minnesota
Building and Testing on an Artificial Stomach

USMN09

Capitol Hill Gifted and Talented Magnet
Anindita Rajamani (7th Grade)
St. Paul, Minnesota
Fast Food Assistant: A Smartphone App for Healthy Fast Food Choices

USMN10

Calvin Christian School
Julia Anne Brouwer (7th Grade)*
Eagan, Minnesota
Leafy Green Astronauts: How Space Radiation Affects Seed Germination and Plant Growth

USMN50

Murray Middle School
Maasia Si-Asar Apet (8th Grade)
Brooklyn Park, Minnesota
Biomass to Biofuel!

Missouri

USMO04

Liberty Middle School
Ashley Elizabeth Sudmann (8th Grade)
Liberty, Missouri
The Effect of Barium Sulfate, Calcium Sulfate, and Magnesium Sulfate on the Hydra littoralis Ability to Capture Brine Shrimp

Pembroke Hill School
Katrina O'Connell Case (7th Grade)
Kansas City, Missouri
Controlling Escherichia coli Bacterial Growth in Reusable Grocery Bags Using Single and Combination Disinfectants

Pembroke Hill School
Morgan Lilith Mos (7th Grade)
Kansas City, Missouri
Controlling Escherichia coli Bacterial Growth in Reusable Grocery Bags Using Single and Combination Disinfectants

USMO09

Timber Ridge Scholars
Elizabeth Paige Wamsley (8th Grade)
Pacific, Missouri
Determining the Effect of Red and Blue LED Grow Lights on Germination Rate, Stem Elongation and Chlorophyll Content in a Hydroponic Brassica oleracea Crop

Montana

USMT01

Absarokee Junior High/High School
Christopher Michael Joseph Pasecznyk (8th Grade)
Absarokee, Montana
Flight at the End of the Tunnel

USMT50

Kalispell Middle School
Lucas Lee Ritzdorf (8th Grade)
Bigfork, Montana
Using a Towable Conductivity-Mapping System to Locate Springs or Septic Leachate

West Valley School
Emily Lauren Cleveland (7th Grade)
Kalispell, Montana
Smart Salt

Nevada

USNV03

Nevada Connections Academy: Stanford Online High School
Ivan Anders Altunin (8th Grade)
Incline Village, Nevada
The Physics of Dye-Sensitized Solar Cells with the Dye-Sensitizer Extracted from Tree Leaves

Virginia City Middle School
Callum Bodington Jack (8th Grade)
Reno, Nevada
The Future is Grey (Water)

New Jersey

USNJ03

Timberlane Middle School
Sonja Morgan Simon Michaluk (8th Grade)
Titusville, New Jersey
A Novel Mathematical Model to Simulate the Impact of Potential Land Development on Chemical and Biological Stream Health

USNJ79	Emil A. Cavallini Middle School **Lasal Bandara Mapitigama (7th Grade)** Upper Saddle River, New Jersey *OpenRoad: A Cost-Efficient Solution to Drowsy Driving*
	Saint Peter Academy **Kelsey Paige Fontenot (6th Grade)** Teaneck, New Jersey *Nanotechnology vs. Nature: Is Ferrofluid More Efficient than Milkweed and Cotton in Removing Oil Spills from Ocean Water?*
USPA03	Moorestown Upper Elementary School **Maya Sonal Butani (6th Grade)** Moorestown, New Jersey *Is it Possible to Create Plastic from Food?*

New Mexico

USNM01	North Valley Academy **Simonita Madelos Grenko-Sanchez (7th Grade)** Bernalillo, New Mexico *Boyle's Law vs. the Poor Scuba Diver: Is Boyle's Law in Effect While Scuba Diving*
USNM50	Los Alamos Middle School **Michael Owen Aslam (8th Grade)** Los Alamos, New Mexico *How Does the Newton Fractal Dimensionality Change with Polynomial Order?*

New York

USNJ03	Saint Ann School **Dora Durdanovic Krstic (8th Grade)** Lawrenceville, New York *Comparison Between Visual and Auditory Reaction Time – Timing It Right at Swim Meets*
USNY01	Saint Martin de Porres School **Theodore A. DeGuzman (8th Grade)** Poughkeepsie, New York *Energy for the World: Wind Turbines*
	Van Wyck Junior High School **Sanjay Natesan (7th Grade)** Hopewell Junction, New York *How Strong Is Your Password?*
USNY02	East Northport Middle School **Isabella Josephine DeBrino (8th Grade)** East Northport, New York *Perplexing Paper Problem – The Effect of a Paper's Composition on its Performance*
	East Northport Middle School **Maxwell Liam DeBrino (7th Grade)** East Northport, New York *Bird's Eye View: The Effect of Shape and Ultraviolet Color on the Feeding Behavior of Finches*

	Hebrew Academy of Nassau County Middle School **Elan Yakov Moskowitz (8th Grade)** West Hempstead, New York *Improving Insecticides*
	Manhasset Middle School **Elizabeth Wu (8th Grade)** Manhasset, New York *The Effect of Various Copper Concentrations on the Growth of L. minor and the Biosorption of Copper by L. minor*
	Manhasset Middle School **Serena Zhao (8th Grade)** Manhasset, New York *The Effect of Various Copper Concentrations on the Growth of L. minor and the Biosorption of Copper by L. minor*
	North Shore Middle School **Kate Elise Weseley-Jones (7th Grade)** Sea Cliff, New York *A Graph is Worth 1,000 (Misleading?) Words*
USNY05	PEARLS Hawthorne **Swaneet Anand Jha (7th Grade)** Yonkers, New York *Cow Dung and Waste to Energy*
USNY06	Ed Smith Elementary **Jackson Louis Marko (6th Grade)** Syracuse, New York *Measuring Concussion Risk in Contact Sports*
USNY07	Shaker Junior High School **John Yin (8th Grade)** Albany, New York *A Small Solution for a Big Problem: Degrading Harmful Microcystins in Freshwater Ecosystems*
USNY50	Elmont Memorial High School **Marvia Jozie Pressoir (8th Grade)** Elmont, New York *The Effect of Green Visible Light on C. elegans Induced Parkinson's Disease*
	Elmont Memorial High School **Akuchinyerem Chisom Onyeobia (8th Grade)** Elmont, New York *The Effect of Green Visible Light on C. elegans Induced Parkinson's Disease*
USNY78	Hunter College High School **Alina Rachel Davydov (8th Grade)** Forest Hills, New York *Optimization of Anthocyanin-Sensitized TiO2 Solar Cells Through Degradation Analysis*

Hunter College High School
Horatio Montero Hamkins (8th Grade)
New York City, New York
Does a Slinky Defy the Law of Gravity?

Hunter College High School
Alex Vtorov (7th Grade)
New York, New York
The Effect of Varying Acidity on Brine Shrimp Hatching Rates

Hunter College High School
Alexandra Amelia Wong (8th Grade)
Whitestone, New York
Analyzing the Active Sites and Catalysis of Neprilysin

North Carolina

USNC02

Cary Classical Arts & Sciences Academy
Ashley Elisabeth Lamb (8th Grade)
Cary, North Carolina
Freshwater Pollutants: The Harmful Effects of Short-Term Exposure on Our Beneficial Bivalves

Holly Ridge Middle School
Ashleigh Marie Nicoll (7th Grade)
Holly Springs, North Carolina
Potential Changes in Yarkovsky's Effect on Bennu Through the Examination of Direct vs. Angular Impact of Light on Crookes Radiometer

Sterling Montessori Charter School and Academy
Ana Leslie Ratanaphruks (8th Grade)
Morrisville, North Carolina
Grading Olive Oil Using a Low-Cost Laser-Induced Fluroescence Spectrometer

USNC50

Asheville Christian Academy
Katherine Elizabeth Rudins (6th Grade)
Fletcher, North Carolina
E-book vs. Tree-book

East Middle School
Joseph David Steed, IV (6th Grade)
Candor, North Carolina
Sweet and Warm

North Dakota

USND03

Woodhaven Academy
Isabelle Louise Chambers (8th Grade)
Fargo, North Dakota
Improving Vision in Pseudophakic Uveitis Patient via Photoactivation

Ohio

USOH02

Anand Homeschool Academy
Ruth Tenboom Anand (7th Grade)
Akron, Ohio
Red and Blue Light Effects of Phototropism Under Simulated Microgravity in Arabidopsis thaliana

Beachwood Middle School
Yoav Pinhasi (7th Grade)
Beachwood, Ohio
Duration of Afterimages in Relation to Color and Shape

Broadway Creek Homeschool Academy
Kei Kojima (8th Grade)
Medina, Ohio
Autonomous Wearable Alert Device Based on Audio Pattern Recognition f or the Hearing Impaired

Hudson Middle School
Caroline Jihyun Jung (7th Grade)
Hudson, Ohio
Complexity Out of Simplicity – Discovery of Simple Patterns in Nature Through Numerical Simulation

North Olmsted Middle School
Kileigh Colleen Zielinski (7th Grade)
North Olmsted, Ohio
Energy Nut: What Type of Nut Gives the Body the Most Energy?

USOH08

Saint Thomas Aquinas Middle School
Shiv Sathya Dewan (8th Grade)
North Canton, Ohio
The Effects of Natural Compounds in Inhibiting the Progress of Drug-Induced Vascular Damage

Oklahoma

USOK01

Shattuck Middle School
Adison Mae Swanson (8th Grade)
Shattuck, Oklahoma
Kidney Cones

USOK05

Homeschool
Brendan Joseph Crotty (8th Grade)*
Muskogee, Oklahoma
Comparative Study of Insulating Materials for a Gas Forge

Oregon

USOR04

Stoller Middle School
Soumik Chakraborty (8th Grade)
Portland, Oregon
Reducing Adolescent Stress via Predictive Machine Learning Models

Stoller Middle School
Eshani Jha (7th Grade)
Portland, Oregon
Controlling Bioavailable Mercury for Consumption by Humans

Stoller Middle School
Anushka R. Naiknaware (7th Grade)
Portland, Oregon
Chitosan and Carbon Nanoparticle-Based Biocompatible Sensor for Wound Management

SUMMA Academy, Meadow Park Middle School

Arjun Jain (8th Grade)
Portland, Oregon
Virbrio fischeri as a Novel Biosensor for Flame Retardant Pollution

USOR50

ACCESS Academy
Natalie Eajia Wang (8th Grade)
Portland, Oregon
Organic or Nonorganic – That Is the Question: A Comparative Study of Antimicrobial Resistance in Bacterial Isolates from Organic, Natural, and Conventional Poultry

Bend Science Station
James Michael Plumleigh (7th Grade)
Bend, Oregon
Cystic Fibrosis Screening: Detection of Gene Mutation Through Hypertonic Sodium Chloride Effects

Cedar Park Middle School
Rupert Michael Li (8th Grade)
Portland, Oregon
Analysis of Correlation Patterns Among Active Fires, Ozone, Acid Rain, and Other Forms of Pollution Using Principal Component Analysis

Cedar Park Middle School
Nashita Fareen Rahman (8th Grade)
Portland, Oregon
Predicting the Natural Habitats of Endangered Species in Oregon Using Statistical Modeling and Analysis Techniques

Pennsylvania

USPA01

Good Shepherd School
Zachary John Yaninek (7th Grade)
Harrisburg, Pennsylvania
Inhibiting the Corrosion of Various Metals Through the Use of Ascorbic Acid

USPA02

Lancaster Country Day School
Arielle Svetlana Breuninger (7th Grade)
Lancaster, Pennsylvania
Colored Shade Balls Save Water

USPA03

Arcola Intermediate School
Ashmitha Sivakumar (8th Grade)
Collegeville, Pennsylvania
Future Fuel Biodiesel

Arcola Intermediate School
Arushi Tiwari (8th Grade)
Collegeville, Pennsylvania
Improving the Water Retention of Soil

Charles F. Patton Middle School
Viraj Joshi (8th Grade)
Chadds Ford, Pennsylvania
Are 3D-Printed Orthoses More Effective than Traditional Orthoses? A Comparative Study on the Efficacy of Using 3D-Printed Orthoses

French International School of Philadelphia
Ravi Nicholas Balasubramanian (8th Grade)
Bala Cynwyd, Pennsylvania
Mathematics in the Microworld: The Geometry of Flocking by the Colonial Protist Volvox

Moravian Academy Middle School
Rhea Malhotra (8th Grade)
Allentown, Pennsylvania
The Effect of Biochemical Agents on Mesenchymal Stem Cells

Orefield Middle School
Sahas Veera (8th Grade)
Orefield, Pennsylvania
Carbon Nanotube Filters: Investigating the Desalination Properties of Graphene Oxide

USPA04

Falk School
Jose Andres Aiellp (6th Grade)
Pittsburgh, Pennsylvania
It's Not All Trash Talk!

Falk School
Benjamin Asher Bermann (7th Grade)
Pittsburgh, Pennsylvania
Onion Extract Effects on Pseudomonas Biofilms: Implications for Treatment

Falk School
Arturo Belkacem Zarour (6th Grade)
Pittsburgh, Pennsylvania
It's Not All Trash Talk!

Freeport Area Middle School
Sophia Anna Hower (8th Grade)
Freeport, Pennsylvania
The Effects of Different Additives on the Adhesive Strength of Silicone and Latex-Based Caulking

Saint Mary of the Assumption Catholic School
Sarah Natalie Watson (8th Grade)
Allison Park, Pennsylvania
Honey I Shrunk the Cancer! Can Manuka Honey Kill Cancer Cells?

Sewickley Academy
Prateek Adurty (7th Grade)
Wexford, Pennsylvania
Going Green: Environmental Impact of Fuels by Combustion

Winchester Thurston School
Aria Rosalee Eppinger (8th Grade)
Pittsburgh, Pennsylvania
Roundup's Effect on Human Gut Bacteria

Yough Intermediate Middle School
Adam Paul Ozegovich (7th Grade)
Ruffs Dale, Pennsylvania
Did You Hear THAT?

South Carolina

USSC05

The Carolina Academy
Ava Elise Palmer (8th Grade)
Lake City, South Carolina
Wi-Fry? Invisible Pollution

Texas

USTX01

Coppell Middle School East
Akash Vijay (7th Grade)*
Irving, Texas
Cycle Power: Harnessing Human Mechanical Energy into Electrical Energy

Frankford Middle School
Yasmin Riya Misra (8th Grade)
Dallas, Texas
Face the Times: Will Analog Clock Reading Become a Lost Skill?

Rice Middle School
Yash Garg (7th Grade)*
Plano, Texas
Survival of the Fittest: An Evolutionary Approach to Solving the Quadratic Assignment Problem

Rice Middle School
Anthony Michael Mellone (8th Grade)
Plano, Texas
The Future of Sailing: Finding the Most Efficient Camber for Hard-Wing Sails

Rice Middle School
Pranav Jay Nathan (7th Grade)*
Plano, Texas
The Future of Transportation: Self Driving Cars

Rice Middle School
Nabil Sikora (7th Grade)*
Plano, Texas
Survival of the Fittest: An Evolutionary Approach to Solving the Quadratic Assignment Problem

Rice Middle School
Andrei George Spiride (8th Grade)*
Plano, Texas
Piezo Power: Noninvasive Wireless Energy Transfer for Implantable Medical Devices

	Rice Middle School **Khushi Sandeep Thakkar (8th Grade)*** Plano, Texas *From Wash to Squash: A Novel Approach to Purifying Used Household Water for Agricultural Applications*
	Schimelpfenig Middle School **Rohan Harshal Chhaya (8th Grade)** Plano, Texas *Sticking Together Through Thick and Thin*USTX03*
USTX03	North Texas Academy of Higher Learning **Hannah Rebecca Erika Keck (8th Grade)*** Plano, Texas *Buyer Beware: A Chemical Analysis For C15H16O2*
USTX05	Bear Branch Junior High School **Annamarie Quinn Mader (8th Grade)** Magnolia, Texas *Bring in the Reinforcements*
	Doerre Intermediate **Theiija Balasubramanian (8th Grade)** Spring, Texas *Bas for Pseudomonas!*
	Fort Settlement Middle School **Nithin Parsan (8th Grade)** Sugar Land, Texas *Applying Kirigami Design to Create NextGen Sun Tracking Solar Panels*
	Knox Junior High **Tanner Matthew Perry (8th Grade)*** Shenandoah, Texas *Five Star Filters, Testing Their Effectiveness at Removing Bacteria from the Air in Your Home*
	League City Intermediate **Maggie Rose Davidson* (8th Grade)** El Lago, Texas *Fat Increases Bioavailability of Antioxidants?*
	McCullough Junior High School **Jaimie Minseo Lee (8th Grade)** The Woodlands, Texas *Oh, Resonance, You're On*
	Quail Valley Middle School **Prince Prakashkumar Patel (8th Grade)** Missouri City, Texas *Plant Supplements*
	Westbrook Intermediate School **Kumaran Elanko Selva (8th Grade)** Houston, Texas *Increasing Efficiency of GaAs Solar Cells with Light Concentration*

USTX07	Trautmann Middle School **Yanning Liu (6th Grade)** Laredo, Texas *Want to Warm Up or Cool Down? Go Underground!*
USTX11	Anderson Christian Academy **Shannon Leigh Anderson (8th Grade)** Seguin, Texas *Tannins as a Gibberellin Antagonist: The Effect of Juniper Tannins on Native Texas Bouteloua curtipendula*
	BASIS San Antonio Medical Center **Catherine Annastina Taboada (7th Grade)** San Antonio, Texas *Experimental Study of the Law of Conservation of Energy Using a Thermo-Electric Bolometer Year II*
	Howell Middle School **De'Everett Niquolas Ross (7th Grade)** Victoria, Texas *How Do Geomagnetic Storms Effect Global Positioning Systems?*
	San Antonio Academy **Joshua Aaron Cross (8th Grade)** San Antonio, Texas *What Is the Most Efficient Natural Way to Filter Heavy Metals from Mine Spill River Water?*
USTX13	Homeschool **Ananya Anandi-Mohana Subramanian (8th Grade)** Austin, Texas *May The Force Move You – Self-Driving Car Powered by Resonant Wireless Energy Transfer*
USTX15	Santa Gertrudis School **Joaquin Haces Garcia (7th Grade)** Kingsville, Texas *Saving Babies: Preventing Heat Stroke Implementing a Novel Car Seat Alarm System*
	Seashore Middle Academy **Nikolai Victorovich Ortiz (7th Grade)*** Corpus Christi, Texas *Finding a Solution to Heavy Metal Water Pollution*
USTX50	Rice Middle School **Manasi Gummaraju (8th Grade)** Plano, Texas *Mitotic Mania: The Effect of Different Household Ingredients on the Mitotic Cell Division of Onion Root Tips and Its Application to Cancer*
	Robinson Middle School **Maansi Rukmini Srinivasan (8th Grade)** Plano, Texas *An Ultrasonic Glove for the Blind*

Utah

USUT04

American Heritage School
Olivia Naomi Washburn (6th Grade)
Orem, Utah
Seeing or Hearing? Which Is Better for Memorizing?

Freedom Prepratory Acadamy
Joseph Thomas Strain (8th Grade)
Provo, Utah
Stopping Inversion Mountain Ridge Junior High

Skyler Ricky Colledge (8th Grade)
Cedar Hills, Utah
Laser Spirograph

Provo Peaks Elementary
Matthew James Argyle (6th Grade)
Provo, Utah
Pyro Protection 2.0

Willowcreek Middle School
Gage William Blackwell (8th Grade)
Lehi, Utah
Tomato Grafting: Reducing the Effects of Soil Borne Pathogens on Crop Yield

USUT05

American Preparatory Academy
Tiara Tuttle (7th Grade)
Salt Lake, Utah
An Auditory EGGsperiment

Challenger School
Michael Boade Silas (6th Grade)
Bountiful, Utah
I'm Leaven It: The Effect of Different Altitudes on a Baking Soda and Vinegar Chemical Reaction

Churchill Junior High
Ellie Joan De Groote (7th Grade)
West Valley City, Utah
A MASSive Mystery

J.E. Cosgriff Memorial Catholic School
Isabella Mia DiNardo (8th Grade)
Salt Lake City, Utah
Game On: Does Mindful Gaming Lead to Improvements in Cognitive Function?

West High School
Christopher L. Li (7th Grade)
North Salt Lake, Utah
Investigating N-Acetylcysteine for Protection Towards UVB-Radiated Human Melanocytes

USUT06

Bear River Charter School
Gary Zhan (6th Grade)
North Logan, Utah
Production of Turmeric in Escherichia coli: Effect of the Substrate Supply on the Yield

Virginia

USVA01

George Washington Middle School
Townson Bayly Smith Cocke (8th Grade)
Alexandria, Virginia
The Effect of Tubercle Amplitude and Wavelength on Fin Drag Williamsburg Middle School

Galilee Alemework Ambellu (8th Grade)
Arlington, Virginia
Lead Content in Arlington Parks

Williamsburg Middle School
Victoria Wenya Graf (8th Grade)
Arlington, Virginia
Evolutionary Approach to the Analysis of Classical Music Entropy

USVA06

Louise A. Benton Middle School
Eleanor Wren Sigrest (7th Grade)
Woodbridge, Virginia
Rockets, and Nozzles, and Thrusts, Oh My

Rippon Middle School
Hashir Aqeel (7th Grade)
Woodbridge, Virginia
A Novel Approach Using SiO2 Nano-Particles to Create Salt Tolerant Rice

Ronald Wilson Reagan Middle School
Elena Grace Novak (8th Grade)
Haymarket, Virginia
The Effect of Bio-Waste on the Concentration of Heavy Metals in Water

Ronald Wilson Reagan Middle School
Wamia Said (8th Grade)
Gainesville, Virginia
The Effect of Bio-Waste on the Concentration of Heavy Metals in Water

USVA09

Yorktown Middle School
Karley Alana Haskiell (6th Grade)
Yorktown, Virginia
Let It Grow! Capitalizing On Soil Capillarity!

USVA10

Auburn Middle School
Phoenix Haas (8th Grade)
Riner, Virginia
The Effects of Different Types of Flaps on Wing Lift

USVA11

George H. Moody Middle School
Emily Elizabeth Carder (8th Grade)
Richmond, Virginia
The Effect of Different Chemical Stress-Signal Simulators on the Drought Tolerance of Pisum sativum

George H. Moody Middle School
Rebekah Neale Cohodas (8th Grade)
Henrico, Virginia
The Effect of the Degree of the Angle at Which the Barrier is Placed on the Evacuation Time from a Room

George H. Moody Middle School
Andion Sophia Padua Dizon (8th Grade)
Glen Allen, Virginia
The Effect of Boiling Time on the Amount of Starch Released from Rice
George H. Moody Middle School

Hanyuan Ge (8th Grade)
Richmond, Virginia
Antibacterial Effect of Vegetables on Growth of Porphyromonas gingivalis

USVA78

Nysmith School for the Gifted and Talented
Annabel Lian (8th Grade)
Mclean, Virginia
Glow in the Dark

Nysmith School for the Gifted and Talented
Kaien Yang (7th Grade)
Chantilly, Virginia
iDiagnostic: Invention of an Early Detection Tool for Major Depressive Disorder

Washington

USWA01

Carmichael Middle School
Zoe Anne Gotthold (7th Grade)*
Richland, Washington
Penguins and Chocolate Mousse Don't Mix – A Study of the Stability and Characteristics of Toxic Chocolate Mousse

Desert Hills Middle School
Nikhil Devanathan* (8th Grade)
Kennewick, Washington
The Effect of NaCl Content on the Voltage Output of a Microbial Fuel Cell

USWA50

Homeschool
Ayush Noori (8th Grade)
Issaquah, Washington
Molecular Mimicry as a Proposed Cause of Guillain-Barré Syndrome in Post-Symptomatic Patients Infected with the Zika Virus

Sequim Middle School
Isabelle Violet MacMurchie (8th Grade)
Sequim, Washington
Modeling the Subsonic Loading Capacity of a Composite Wing Span

Sequim Middle School
Douglass Black Peecher (8th Grade)
Sequim, Washington
Do Winglets Work on RC Aircraft?

Wyoming

USWY50

Laramie Junior High School
Arundathi S. Nair (8th Grade)
Laramie, Wyoming
DVT Prevention Pedal

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