
2015 Alabama Science and Engineering Fair

Category Award Winners

Category

<u>Place</u>	<u>Proj. No.</u>	<u>Name</u>	<u>School</u>
<u>Project Title</u>			

Junior Division

Behavioral & Social Sciences

- 1 BE 111 **Durham, Wilhelmina**
Holy Spirit Catholic High School Night of the Living Lesson Plan
- 2 BE 116 **Bush, Caroline**
Life Christian Academy The Makeup Myth
- 3 BE 104 **Bendickson, Caroline**
Heritage Elementary School The Gluten Verdict
- 3 BE 113 **Burch, Ella**
Hampton Cove Middle School Evaluating Choice Blindness
- 3 BE 106 **Westmoreland, Josie**
Muscle Shoals Middle School The Bouba-Kiki Effect
- 4 BE 109 **Abasy, Aliyah**
Islamic Academy of Alabama What's So Funny?
- 4 BE 105 **McCullough, Cavan**
Muscle Shoals Middle School Can Music Beat Dimantia?
- 4 BE 107 **Patel, Ishan**
Opelika Middle School Cube It!

Category

Place	Proj. No.	Name	School
Project Title			
4 BE 101		Subramani, Sneha	
Mill Creek Elementary School			Are you Left or Right Sided?
4 BE 102		Tisdale, Brannan	
Saraland Middle School			Do Screen and Text Color Affect Retention?
HM BE 103		Almatubsi, Yasmeen	
Islamic Academy of Alabama			How Fast Are You?
HM BE 108		Amey, Claire	
Liberty Middle School			How Reliable is Eye-Witness Testimony?
HM BE 114		Bell, Jack	
Mill Creek Elementary School			Commit To Be Fit
HM BE 115		Graves, Madisyn	
J.E. Williams Elementary			Pump up the Music and Drop that Beat
HM BE 110		Kutsch, Anna-Julia	
The Altamont School			The Confidence Issue
HM BE 112		Scroggins, Callie	
Mill Creek Elementary School			A Rewarding Experience
HM BE 100		Tibbs, Taylor	
Columbia Elementary School			How Does Music Make You Feel?

Botany & Zoology

1 BZ 155		Eltoum, Wamda	
Islamic Academy of Alabama			Can Cinnamon act as a Rooting Hormone: Extracting the Active Ingredient?

Category

Place	Proj. No.	Name	School
Project Title			
2 BZ 154	Lumpkin, Rhianna		
Eclectic Middle School		Peanuts 4 Eggs	
3 BZ 152	Agrawal, Trisha		
Phillips Preparatory School		Juglone Kills Kudzu?	
3 BZ 160	Bassett, Brooke		
Holy Spirit Catholic High School		Moonlight Munchies	
3 BZ 158	Gentry, Olivia		
Clark-Shaw Magnet School		No Fly Zone	
3 BZ 162	King, Ethan		
Heritage Elementary School		pH Plants	
3 BZ 153	McCormick, Alexander		
St. John the Baptist Catholic School		Mealworm Frenzy	
3 BZ 159	Walker, Claudia		
D.A. Smith Middle School		Which H2O Makes Plants Grow?	
4 BZ 157	Connolly, Catherine		
St. Joseph Regional Catholic School		To Wick or Not to Wick	
4 BZ 156	Petrovic, Sophie		
Holy Spirit Catholic High School		How Well Do Dogs Smell? (Part 2)	
4 BZ 165	Williams, Sydney		
Hampton Cove Middle School		Nuclear Radishes	

Category

Place	Proj. No.	Name	School
Project Title			
HM BZ 150	Batchelor, Caila		
Columbia Elementary School		Effect of Soil Microorganisms on Plant Growth	
HM BZ 161	Strickland, Cecilia		
Opelika Middle School		Does Time Effect Microorganism Growth?	
HM BZ 163	Vilardi, Julian		
Wetumpka Middle School		Musical Seeds	
HM BZ 164	Wing, Connor		
Mill Creek Elementary School		Will Sugar Water or Coffee Make Bean Plants Grow Larger Than Water?	

Chemistry

1 CH 200	Lyons, Kaya		
Heritage Elementary School		Rise of the Yeast	
2 CH 203	Lowe, Abigail		
The Altamont School		Which is the Best Way to Detect Forgery?	
3 CH 208	Vogler, Anna		
Heritage Elementary School		Making Apple Juice with Enzymes	
4 CH 209	Ashour, Mohammad		
Islamic Academy of Alabama		Biodiesel Fuel	
HM CH 201	Butler, Jackson		
Muscle Shoals Middle School		Water Purification	
HM CH 207	Call, Jensen		
Horizon Elementary School		Seed Crystal Egg-speriment	

Category

Place	Proj. No.	Name	School
Project Title			
HM CH 205		Mujica, Melanie	
Westlawn Middle School		Baking Soda + Vinegar = Blastoff	
HM CH 206		Rudolph, Katherine	
Phillips Preparatory School		Bioplastic: The Strengthening Effects of Glycerin	
HM CH 202		Szymanski, Sean	
Hampton Cove Middle School		Supercool H2O	
HM CH 204		Triest, Alexine	
The Altamont School		Homemade or industrial detergent? Which one is better?	

Engineering

1 N 256		Kirkpatrick, Kensi	
Life Christian Academy		Reducing Pressure Loss In Pipes Using Super Hydrophobic Coatings	
2 N 255		Thammavongsa, Allyson	
Heritage Elementary School		How Lubricants Affect Mechanical Operations	
3 N 243		Reynolds-Gleason, Jordan	
Grace Lutheran School		Can a LaserJet or Inkjet Printing Process be Engineered to Print a Graphene Super Supercapacitor Battery?	
3 N 257		Subramaniam, Adhavan	
Mill Creek Elementary School		Effect of Magnetic Strength on Rotation Speed	
4 N 244		Freestone, Matthew	
St. John the Baptist Catholic School		Flight Of The Quadcopter: How to Achieve the Longest Flight Times	
HM N 249		Alexander, Carly	
Phillips Preparatory School		Saved By Seaweed?	

Category

Place	Proj. No.	Name	School
Project Title			
HM N	248	Bohanan, Victoria	Holley Lavigne
East Limestone High School		Break a Bridge	
HM N	246	Bowman, Johnny	
Clark-Shaw Magnet School		Need for Speed	
HM N	251	Gibbs, Mason	
Holy Spirit Catholic High School		Power By The Hour	
HM N	242	Kutz, Jonathan	
Muscle Shoals Middle School		Wings in a Wind Tunnel	
HM N	254	Lomas-Ortega, Ashanti	
Westlawn Middle School		The Water Bridge Project	
HM N	240	Madden, Mary	
Our Lady of the Valley Catholic School		Save The Egg	
HM N	250	Maggi, Martine	
Holy Spirit Catholic High School		Chow Time	
HM N	253	McKay, Parker	
Opelika Middle School		Electromagnetics	
HM N	245	Schoolmann, Conner	
Holy Spirit Catholic High School		Is Air the New Speed?	
HM N	247	Wallace, Erin	
Muscle Shoals Middle School		"BE STRONG" I Whispered To My Wi-Fi Signal	

Category

Place	Proj. No.	Name	School
		Project Title	

HM N	241	Yeatman, Wesley	Steve Kagia
		Our Lady of the Valley Catholic School	Which Bridge Design is Stronger?

Environmental

1 E	274	Lange, Noel	
		Auburn Junior High School	Development of a Non-Woven Cotton Filter Capable of Reducing Sulfur Dioxide in Indoor Air
2 E	276	Burckhartt, Hannah	
		Clark-Shaw Magnet School	Oil Spills: Time vs. Remediation
3 E	272	Elqishawi, Mahmoud	
		R. F. Bumpus Middle School	Black Warrior River...Share But Kindly Care!
4 E	280	Councill, Marissa	
		Hampton Cove Middle School	Going Somewhere?
4 E	279	Kelso, Sarah	
		Hampton Cove Middle School	Arthropods vs. Airguns
4 E	271	Kloske, Alexa	
		St. John the Baptist Catholic School	Pollution Problem "The Impact of Pollution on Bacteria"
HM E	285	Cowley, Marena	Madeline Joiner Avy Elmore
		Oak Park Middle School	Carbon Footprints
HM E	275	Guru, Maya	
		The Altamont School	Fuel Cycle of the Future

Category

Place	Proj. No.	Name	School
Project Title			
HM E	277	Hurst, Brianna	
Columbia Elementary School		Nature Vs. Man Which Makes Plants Grow Faster	
HM E	286	Langley, Catherine	
Phillips Preparatory School		Filtering Fowl River	
HM E	273	McKinley, Lauryn	Elizabeth Jasmine
Beverlye Magnet School		Can the Color of Your House Reduce Your Energy Footprint?	
HM E	270	Phan, Minh	
Columbia Elementary School		Make The Wind Work for You	
HM E	284	Reyes, Ryan	
Horizon Elementary School		Evaporation Rates	
HM E	278	Sandstrom, Joseph	
Liberty Middle School		Clean Energy: Generating Electricity with a Wind Turbine	
HM E	282	Sexton, Cara	
Challenger Elementary		The Effects of Chemical Weathering and Freezing on Rocks	
HM E	281	Sullivan, Isabella	
Holy Spirit Catholic High School		The Peroxide Project	
HM E	283	Torres, Andrea	
Heritage Elementary School		Soil Erosion	

Math & Computers

1 X	307	Walker, Davy	
Oak Park Middle School		Pappus' Physics	

Category

	<u>Place</u>	<u>Proj. No.</u>	<u>Name</u>	<u>School</u>
	<u>Project Title</u>			
2	X	305	Towery, Jessica	
	Clark- Shaw Magnet School		Fibonacci, Or Not?	
3	X	308	Jakka, Sujay	
	West Madison Elementary		A Study on Materials that Block Wi-Fi Signal	
4	X	301	Odom, Cecily	
	Phillips Preparatory School		Are You Safe?	
HM	X	306	Douglas, Tyanna	
	Clark- Shaw Magnet School		Cell Phone with Raditation	
HM	X	303	Lakhanpal, Amrita	
	The Altamont School		Help! I Got Hacked: How Fast Can Your Password Be Cracked?	
HM	X	302	Laubenthal, Lillian	
	Holy Spirit Catholic High School		Fitness Tracker or Fitness Slacker?	
HM	X	304	Qashou, Omar	
	Islamic Academy of Alabama		Can Video Games Make You Smarter	
HM	X	300	Rose, John	
	Our Lady of the Valley Catholic School		Which Color Makes You a Winner?	

Medicine & Health Science

1	ME	323	Srivastava, Sejal	
	Drake Middle School		The Effects of Allium sativum (garlic) and Zinger officinale (ginger) on Escherichia coli	
2	ME	322	Sridhar, Nikitha	
	J.F. Drake Middle School		Effects of Auditory and Visual Distracters on Multisensory Perception	

Category

	<u>Place</u>	<u>Proj. No.</u>	<u>Name</u>	<u>School</u>
	<u>Project Title</u>			
3	ME	321	Burckhartt, Alexis	
	Clark-Shaw Magnet School		Breathing Easy	
3	ME	325	Patel, Swapnil	
	Indian Springs School		Germ invasion	
3	ME	332	Proctor, Dylan	
	Hampton Cove Middle School		Gamers Beware	
4	ME	324	Josyula, Krishna	
	Indian Springs School		Bacteria Around Us	
4	ME	326	Shields, Jackson	
	Our Lady of the Valley Catholic School		Got You Covered	
4	ME	329	Singley, Alleyson	
	Beverlye Magnet School		Medicine Solubility	
HM	ME	328	Bowen, Ashley	
	Our Lady of Fatima Catholic		I've Got the Beat!	
HM	ME	333	Jackson, Abbigail	
	Horizon Elementary School		Determination of the Conductivity of Alginate Gels with and without Conducting Additives	
HM	ME	331	Mallah, Seema	
	Islamic Academy of Alabama		The Rapid Heart Beat	
HM	ME	330	Markert, Jack	
	Indian Springs School		Smart Phone Apps and Jellyfish: A Free App to Enable Molecular Biology in Public Schools	

Category

Place	Proj. No.	Name	School
Project Title			
HM ME 320	Murphree, Joshua		
Columbia Elementary School		Faster to the Finish: How Caffeine Affects Running	
HM ME 334	Vanterpool, Jayden		
Oakwood Adventist Academy		Does Mouthwashes Cause Damage to Cells?	
HM ME 327	Willard, Spenser		
Grace Lutheran School		Is Grandma Okay? Can a Sensor Tell if Someone Has Fallen Down?	

Physical Science

1 Z 379	Kirk, Caleb		
Muscle Shoals Middle School		Refraction Extraction	
2 Z 381	Cassady, Maya		
Indian Springs School		Surface Ages of Planetary Bodies	
3 Z 371	Pardo, Jose		
Clark-Shaw Magnet School		Stick It to Win It	
4 Z 365	MacDonald, Sophia		
Clark- Shaw Magnet School		Ball of Energy	
HM Z 370	Ashley, Will		
Cornerstone Christian Accademy		No Strings Attached	
HM Z 367	Barlet, Sam		
Eclectic Middle School		Smooth Sailing?	
HM Z 360	Berry, Noah		
Mill Creek Elementary School		An Uphill Battle	

Category

Place	Proj. No.	Name	School
Project Title			
HM Z	387	Black, Carrin	
Chaffee Elementary School		Science of Heat Transfer	
HM Z	389	Blomeley, Aubrey	
Heritage Elementary School		Save A Mint When You Print	
HM Z	378	Cason, Adam	
Opelika Middle School		How Do Dimples Affect the Aerodynamics of a Car?	
HM Z	384	Congo, Claire	
Mill Creek Elementary School		No Mo' Snow On Our Roads	
HM Z	391	Downey, Amir	Noah Berry
Rainbow Elementary School		How Many Pennies?	
HM Z	388	Eason, Brett	
Columbia Elementary School		How Temperature Change Effects Magnets	
HM Z	386	Edwards, Alex	
Rainbow Elementary School		Whirly Bird Wonder	
HM Z	376	Ferraro, Youri	
Phillips Preparatory School		Colorful Energy	
HM Z	362	Gjesvold, Jack	
Columbia Elementary School		Parachutes...Does Size Matter?	
HM Z	380	Harris, Jordan	
Phillips Preparatory School		Super Jello!	

Category

Place	Proj. No.	Name	School
Project Title			
HM Z	373	Hodgson, Emily	
St. John the Baptist Catholic School		Stuck on U	
HM Z	383	Jones, Alexandria	
Opelika Middle School		Is It Safe to Reuse Water Bottles?	
HM Z	372	Lanier, Jackson	
Heritage Elementary School		Science Friction	
HM Z	392	Limaye, Maanasi	
Rainbow Elementary School		Loopin' Marble Roller Coaster	
HM Z	368	Moody, Emily	
Hampton Cove Middle School		Zapping the Voltage with Faraday's Law	
HM Z	394	Nix, Tyler	
Heritage Elementary School		Wireless Interference	
HM Z	393	Pour-Biazar, Aubteen	
West Madison Elementary School		The Fastest Way to Cool A Soda	
HM Z	382	Purdy, Victoria	
Phillips Preparatory School		Surf's Up!	
HM Z	361	Revera, Ryan	
Horizon Elementary School		Baseball Blast! Testing How Far A Baseball Will Travel.	
HM Z	375	Seay, Lawson	
Duran North Middle School		Angry Balls	

Category

Place	Proj. No.	Name	School
Project Title			
HM Z	374	Smith, Gavin	
St. John the Baptist Catholic School		Ultra Low-Cost Solar Concentrator for Improving Solar Phone Charger Performance	
HM Z	377	Stabler, Emma	Andrea Shirley
Beverlye Magnet School		Gel-O or Gel-No: The Effects of Bromelain on Proteins	
HM Z	369	Thompson, Callie Anne	
Clark-Shaw Magnet School		Hot Colors	
HM Z	385	Thompson, Miles	
St. Joseph Regional Catholic School		Which Disc is Groovier?	
HM Z	364	Todd, Brandon	
Rainbow Elementary School		Testing the Strength of Bridge Designs	
HM Z	390	VanAkin, Joshua	
Mill Creek Elementary School		Strength of an Electromagnet Continued	
HM Z	363	Werkheiser, Avery	
Mill Creek Elementary School		Science Friction	

Category**Place****Proj. No.****Name****School****Project Title**

Senior Division
Animal Science

- 1 AS 502 **McCormick, Quinn**
Jefferson County International Baccalaureate School
Modifiers of *Apis mellifera* Flight Muscle Metabolism, a Field Study in a Working Apiary
- 2 AS 503 **Bowman, Sarah**
Murphy High School
Tag Retention and Stress Levels in Subadult Red Drum (*Sciaenops ocellatus*)
- 3 AS 501 **Zhu, Lucy**
Murphy High School
Young or Old
- 4 AS 500 **Simonton, Clay**
Wetumpka High School
Dinner Bell

Behavioral & Social Sciences

- 1 BE 524 **Nishikawa, Javier**
St. John Paul II Catholic High School
Language: Does it Affect Your Decisions?
- 2 BE 526 **Benton, Hannah**
Wetumpka High School
Just the Facts, Ma'am
- 3 BE 522 **Aleezada, Zahab**
Alabama School of Fine Arts
How Using the Internet Affects Teenagers' Health (Using BMI)
- 3 BE 529 **Bucknor, Nina**
Oakwood Adventist Academy
Which High School Grade Level Performs Best on a Stroop Task?
- 3 BE 525 **Grandhi, Sameera**
Alabama School of Fine Arts
Increasing Interest and Understanding of Science Concepts Through Lab Re-Design

Category

	<u>Place</u>	<u>Proj. No.</u>	<u>Name</u>	<u>School</u>
	<u>Project Title</u>			
4	BE	520	Meeks, Addison	
	Auburn Junior High School		Do You See What I See?	
4	BE	523	Phillips, Hunter	
	Shoals Christian School		Does Memory Increase or Decrease with Age?	
4	BE	528	Todd, Maloreigh	
	Glenwood Academy		The Impact of Attire	
HM	BE	521	Haynes, Alyssa	
	Pell City High School		The Effectiveness of Art Therapy	

Biochemistry

1	BI	551	Limdi, Mihir	
	The Altamont School		Effects of Indomethacin and Thrombin on Platelet Bioenergetics	
2	BI	550	Jones, Alexis	
	Auburn Junior High School		Recycling What's Dog-Gone Good: Designing and Assessing a Safe and Nutritious Dog Food from Recycled School Lunches	
3	BI	552	Banks, Cordarian	
	Alabama School of Fine Arts		Purification and Crystallization of a Specific CFTR Synthetic Antigen Binding Fragment (synFab)	

Cellular & Molecular Biology

1	CB	562	Rastogi, Ruchir	
	Loveless Academic Magnet Program High School		Modulation of Macrophage Phenotype Using Nanoparticle-Delivered Gene Therapy for Treatment of Inflammatory Diseases	
2	CB	561	Revanna, Jasmin	
	Alabama School of Fine Arts		Determining the Role of a Ganglion Cell Class in the Retina with Thermal Imaging	

Category**Place****Proj. No.****Name****School****Project Title**

- 3** CB 560 **Kloske, Madelyn**
St. John Paul II Catholic High School Variants in 9p21.3 Associated with Coronary Artery Disease
- 4** CB 564 **Lawrence, Kaitlyn**
Wetumpka High School Animals that Eat as a Model for Humans We Treat

Chemistry

- 1** CH 583 **Vogler, Daniel** **Hamad Muhamma**
James Clemens High school The Surface Chemistry of Digital Screen Protectors
- 2** CH 584 **Koons, Katherine**
St. John Paul II Catholic High School Citric Circuits
- 3** CH 582 **Eaddy, Searra** **Hannah Reburn**
Stanhope Elmore High School Got Cold Hands Too?
- 4** CH 581 **Wilson, Meagan**
Stanhope Elmore High School Electrolyte Challenge: Which Drink Is Best
- HM** CH 580 **Welch, Katherine**
St. John Paul II Catholic High School Fading Memories

Computer Science

- 1** CS 602 **Walker, Joshua**
Hewitt-Trussville High School Modeling of a Drug Delivery System Utilizing Computer Software
- 2** CS 601 **Lewis, Sara** **Tiffany Salas-Lope**
Hewitt-Trussville High School Budget Assistance App for Grocery Shopping

Category**Place****Proj. No.****Name****School****Project Title**

3 CS 600 **Odom, Ariel**
Davidson High School The Effect of Parabolic Reflectors on Wi-Fi Signal

3 CS 603 **Tumlin, Nath**
Alabama School of Fine Arts The Flying, Spying Pi

Energy & Transportation

1 ET 624 **Phillips, Hunter**
Covenant Christian Academy Development of a Novel Unmanned Aerial Vehicle (UAV):
Nanoscale Transverse Tilt-rotor Helicopter

2 ET 622 **MacDonald, Kennedy**
Davidson High School Flying Boats? Using Aerodynamics to Increase the Efficiency of
Hydrodynamics: Part 2

3 ET 620 **Lall, Rahul**
Auburn High School Algorithms for Prognostication of Electronics Failures in Hybrid and
Electric Vehicles

4 ET 621 **Dudeck, Noel** **Tyler Huang**
Alabama School of Fine Arts Power Generation in Microbial Fuel Cells

HM ET 625 **Norwood, Austin** **Matthew Jackson**
Hewitt-Trussville High School Increased Efficiency in Solar Energy for Developing Countries

HM ET 623 **Smitherman, Andrew**
Alabama School of Fine Arts An Analysis of the Aerodynamic Efficiency of Wind Turbine Blade
Designs

Engineering: Electrical & Mechanical

1 EE 643 **Prevost, Drew**
Covenant Christian Academy Design and Construction of a Scalable Active Battery Management
System for Electric and Hybrid Electric Vehicles

Category

	<u>Place</u>	<u>Proj. No.</u>	<u>Name</u>	<u>School</u>	<u>Project Title</u>
2	EE	645	Benson, Sean	Satsuma High School	Thermally Actuated Artificial Muscles for Use in Exoskeletons
3	EE	641	Burch, Hayden	Auburn Junior High School	Evaluation of a Novel Wind Energy Capture Device- The Wind Wing
3	EE	646	Corbett, Daniel	Lakeview Christian School	Cancelling Motion Induced Noise from Optical Signals
4	EE	644	Jordan, Alexis	Hewitt-Trussville High School	Jacob Spruiell The Development of a Car Seat Alert System using Arduino Uno
HM	EE	640	Riggs, Sharee	Wetumpka High School	Electro-Mechanical Powered Light
HM	EE	642	Salazar, Anna	W.P Davidson High School	Garage Notifications

Engineering: Materials & Bioengineering

1	EN	661	Shah, Priya	Alabama School of Fine Arts	Non-Invasive Monitoring of Inflammation in a Genetically-Modified, Tissue Engineered Vascular Model
2	EN	660	Abreo, Joshua	James Clemens High School	Multiscale Simulation of Tumor Growth and Angiogenesis: A Model for Pharmacotherapy Assessment and Drug Discovery
3	EN	662	Arnold, Ashlynn	Hewitt-Trussville High School	Lauren Tinsley The Effect of Vibrations on Bacterial Growth

Category**Place****Proj. No.****Name****School****Project Title**

Environmental Management

- 1** EM 681 **Knight, Maggie**
Alabama School of Fine Arts Correcting Ocean Acidification with Potassium Carbonate
- 2** EM 680 **Smith, Elena**
St. John Paul II Catholic High School Low-Cost Laser Scatterometer for Home Air Quality Measurement
- 3** EM 682 **Elqishawi, Rowan** **Rozan Elqishawi**
Hoover High School Coal Energy or Pure Water, But Maybe Both...Alabama to Choose!
- 4** EM 683 **Abernathy, Briganna**
Jefferson County International Baccalaureate School The Effects of Man made Water Filters on the Various Properties of Water

Environmental Science

- 1** EV 704 **Lange, Megan**
Auburn High School Removal of BTEX from Storm Water Using Improved HDTMA Nano-Particle Enhanced Reactive Porous Concrete
- 2** EV 705 **Banker, Zena**
Wetumpka High School The Effect of Hydraulic Fracturing on the Germination of Monocots and Dicots: Foul Play in Shale Play?
- 3** EV 706 **Thornhill, Jasmine**
Oakwood Adventist Academy Can Copper Sulfate Affect Aquatic Environments?
- 4** EV 707 **Tharpe, McKenna**
Stanhope Elmore High School Rain, Acid Rain, How Does Your Garden Grow?
- HM** EV 700 **Boone, Richard**
Murphy High School Mr. Heat Miser

Category

Place	Proj. No.	Name	School
Project Title			
HM EV 708		Brewer, Annaka	
Murphy High School		Shake it Up	
HM EV 702		Courneyea, Zachary	
W.P. Davidson High School		Water Quality of Common Water Sources: What's in the Water We Drink?	
HM EV 703		Good, Kenneth	
Columbia High School		Chemical Desalination	
HM EV 701		Sanders, Daniel	
St. John Paul II Catholic High School		Oil Molecular Measurement with Varying Underwater Terrain	

Mathematical Science

- 1** MA 720 **Laden, Michael**
Davidson High School An Exploration of Improper Integrals
- 2** MA 721 **Phillips, Noah**
Alabama School of Fine Arts Factors Correlating to Obesity in Alabama Counties: A Statistical Analysis of Varying Individual Behaviors
- 3** MA 722 **Burge, Keri**
St. John Paul II Catholic High School Culminations in Compositions: Using the Fibonacci Numbers to Find Climaxes in Music

Medicine & Health Science

- 1** ME 744 **Palanki, Rohan**
W.P. Davidson High School Gold and Silver Nanoparticles for Skin Cancer Chemoprevention and Therapy
- 2** ME 748 **Pruitt, James**
St. John Paul II Catholic High School Measuring Impacts That Can Cause Concussions

Category

Place	Proj. No.	Name	School
Project Title			
3	ME 742	Lenard, Nolan	
Davidson High School		Replacing Corrective Lenses with Digital Camera Technology	
4	ME 746	Bradford, Courtney	Katie Lee Delaney
Hewitt-Trussville High School		The Effects of Foot Strike, Cadence, and Knee Angle on High School Cross Country Runners of Different Skill Levels: a Case-Control Study	
HM	ME 743	Guru, Arjun	Amy Zhao
The Altamont School / Vestavia Hills High School		Gene Expression in Primary and Metastatic Kidney Cancer to Discover Drivers of Metastasis and Targets for Drug Development	
HM	ME 740	Johnson, Kyndall	
Glenwood Academy		Effectiveness of teeth whitening	
HM	ME 741	Lakhanpal, Arjun	
The Altamont School		Inhibition of the Wnt/B-Catenin Signaling Pathway by the Drug Niclosamide and It's Analog: A Therapeutic Agent for Triple Negative Breast Cancer Cells	
HM	ME 747	Mulholland, Jennifer	
Murphy High School		Zap, Crackle, Plop! How Do You Get Your Vitamin C?	

Microbiology

1	MI 780	McFeely, Mitchell	
St. John Paul II Catholic High School		Signage and It's Impact on the Efficacy of Hand Washing: A Two Phase Study	
2	MI 784	Lim, Jamie	
Murphy High School		Antibacterial Foods	
3	MI 782	Breeding, Charlai	
W.P. Davidson High School		Antimicrobial Activity on Plants	

Category

	<u>Place</u>	<u>Proj. No.</u>	<u>Name</u>	<u>School</u>
	<u>Project Title</u>			
3	MI	785	Rodriguez, Julissa	
	Murphy High School		What's In Your Milk?	
HM	MI	781	Elliott, Ray	
	Shoals Christian School		How Does Temperature Affect the Growth of Bacteria?	
HM	MI	783	James, Hannah	
	Wetumpka High School		Pharmer's Market	

Physics & Astronomy

1	PH	805	Elridge, Michael	
	Hewitt-Trussville High School		Measuring the Intensity of Cathode Ray Tubes with Various Materials as Anodes	
2	PH	802	Palanki, Rupa	
	W.P. Davidson High School		Design of Solar Energy System for Mobile Low-Power Applications	
3	PH	806	Stiff, Karen	Wesley Abrams
	Elmore County High School		What's The Fastest Way To Cool A Soda?	
4	PH	804	Allen, Elizabeth	
	St. John Paul II Catholic High School		The Effects of Light on 3-D Photography	
HM	PH	801	Carpenter, Cayla	
	Pell City High School		Are You Out Of Tune?	
HM	PH	800	McCoy, Caitlin	
	McGill Toolen Catholic High School		How the Strength of a Magnet Varies with Temperature	

Category**Place****Proj. No.****Name****School****Project Title**

HM PH 803 McGinnis, Michael
Jefferson County International Baccalaureate School Input Power Dependency of White Light Generation

Plant Science

1 PS 831 Polski, Alexander
W.P. Davidson High School Effects of 2.4 GHz WLAN Radio Waves on Plant Growth

2 PS 835 Gong, Jung Ho
Alabama School of Math and Science Chemical Analysis of Orthopterian Saliva and Mouse EGF and their Corresponding Effects on Growth of the Seedlings of Peas

3 PS 830 Weathers, Mac
St. John Paul II Catholic High School Effects of Coffee Grounds and Eggshells as Fertilizer on Growth of Wisconsin Fast Plants

4 PS 833 Thomas, Damar
Oakwood Adventist Academy Which Liquids Can Be Added Alongside Water to Help Support Plant Growth?

HM PS 834 Norris, Kelin
Oakwood Adventist Academy Will My Chemical Produce Greater Plant Growth Than Standard Fertilizer and Plant Feed?

HM PS 832 Oliver, William
Wetumpka High School Is the Grass Greener on the Other Side?

HM PS 836 Pinkston, Audrey
Wetumpka High School The Effectiveness of Solasodine Rhamnosyl Glycosides on Pre-Cancerous Skin Lesions