

# RBSEF, Inc. Presents the 72nd Reading-Berks Science And Engineering Fair

Hybrid through STEMWizard and Albright College March 11, 2024 – March 14, 2024

RBSEF 2024 Awards Ceremony at Albright College March 14, 2024 6:00 pm





**Principal Sponsor** 



### **READING-BERKS SCIENCE AND ENGINEERING FAIR**

ORGANIZED-1952 Incorporated as RBSEF, Inc. - January 2003

FOUNDED BY: THE READING CHEMISTS' CLUB In 1952

### SUPPORTING ORGANIZATIONS: THE SCIENCE TEACHERS OF READING AND BERKS COUNTY From 1957

### AND

THE READING CHAPTER PENNSYLVANIA SOCIETY OF PROFESSIONAL ENGINEERS From 1972

> Special Thanks To: Broadcom Foundation Reading Eagle The King's Academy Witzel Sound Solutions Zach Gore – STEMWizard Support

### SCHEDULE OF EVENTS

Monday, March 11, 2024 6:00 PM - 8:00 PM PROJECT DISPLAY SETUP

Tuesday, March 12, 2024 8:00 AM - 3:00 PM JUDGING OF EXHIBITS 1:00 PM - 3:00 PM STUDENT INTERVIEWS

Wednesday, March 13, 2024 8:00 AM - 9:00 PM FAIR OPEN TO PUBLIC

Thursday, March 14, 2024 8:00 AM - 4:00 PM FAIR OPEN TO PUBLIC 8:00 AM - 4:00 PM STUDENTS PICK UP PROJECTS

#### 6:00 PM AWARDS PROGRAM

Introductory Remarks Greg Przyjemski, President, RBSEF, Inc. Karen Campbell, Albright College Provost

Presentation of Awards Deanna Witzel, RBSEF Fair Director

Friday, March 15, 2024 7:00 AM – 8:30 AM STUDENTS PICK UP PROJECTS (All exhibits to be removed by 8:30 am. Unclaimed projects will be discarded.) FINANCIAL CONTRIBUTORS 2024

# <u>\$10,000 Contributor – Principal Sponsor</u> Broadcom Foundation

<u>\$1,000 Contributors – Silver Sponsors</u> Mitsubishi Chemical Advanced Materials Schatz Electric

> <u>\$500 Contributors – Bronze Sponsors</u> Amy and Steven Bright Brentwood

> <u>\$250 Contributors – Bronze Sponsors</u> Aftan Engineering, LLC Ashley Furniture Industries, Inc. Berks County Patriots Firefly Bookstore JPMS Manufacturing, LLC Marando Industries Microchip Technology PhytogenX, Inc. Solar Innovations Tompkins Traffic Planning and Design, Inc.

<u>\$200 Contributor- RBSEF Sponsor</u> Eastern Technologies, Inc. Matthew Schell

<u>\$100 Contributor - RBSEF Sponsor</u> Levan Machine & Truck Equipment Security Service Company J.B. Long, Inc.

<u>\$50 Contributor - RBSEF Supporter</u> Perry Township Game Association Working Dog Press

Any corporation or individual wishing to join in supporting the Reading-Berks Science and Engineering Fair may send a contribution to:

RBSEF, Inc., PO Box 13314 Reading, PA 19612

or at https://rbsef.com/donate

RBSEF, Inc. is a non-profit corporation whose sole purpose is the operation of the science fair.

The Reading-Berks Science and Engineering Fair is incorporated as RBSEF, Inc. RBSEF, Inc. has an IRS 501 C3 tax exemption. Your charitable contribution may be eligible for a full tax deduction under the rules of the Internal Revenue Service.

### **CATEGORY AWARDS**

The decisions of the judges reflect their desire to recognize exhibitors who have displayed outstanding science and engineering projects. The award guidelines may be changed at the discretion of the award donor or the judges in order that deserving students may be recognized.

#### Senior Division - 9th through 12th grades.

Honorable mentions in each of the nine classifications will receive a certificate. First through fourth place winners will receive medals. The Grand Champion, the Champion and the Reserve Champion will each receive a plaque. The Grand Champion and the Champion will be eligible to participate in the Regeneron International Science and Engineering Fair taking place the week of May 11 - 17, 2024 in Los Angeles, CA.

The Grand Champion, Champion and the Reserve Champion are selected from the top projects in the Senior Division. The ISEF Committee Members determine the winners.

#### Junior Division - 6th through 8th grades

Each grade, 6<sup>th</sup> through 8<sup>th</sup>, have a Natural Science Category and a Physical Science Category and will receive the following:

Honorable mentions will be awarded certificates.

First through fifth place winners will receive medals and will receive Thermo Fisher Junior Innovators Challenge awards and invitations to compete in the 2024 Thermo Fisher JIC (previously Broadcom MASTERS 2010-2022) national competition.

The Junior Division Champion is selected from the top Natural and Physical division projects in each grade and will receive a plaque.

All exhibitors whose entries were accepted by the registration deadline will receive certificates for their participation in the Reading-Berks Science and Engineering Fair.

### **SPECIAL AWARDS**

The special awards are judged and presented by the following professional, technical, and civic organizations, corporations and the U.S. Armed Forces.

#### Altrusa International of Reading

A \$100 award to one girl and one boy in the Junior Division who have accrued the second highest number of points in natural or physical science.

#### American Association of University Women, Reading Branch

AAUW supports the science programs and the Science Fair event by donating a cash award for a ranked girl in the Senior (\$200) and Junior (\$100) Division that has shown talent and originality in the demonstration of an area of science.

#### American Psychological Association

One certificate and 1-year Complimentary Student Membership recognizing outstanding research in psychological science under the category of behavioral and social sciences or any category related to psychology (e.g., animal sciences, biomedical and health sciences, translational medical science).

#### American Society of Civil Engineers Reading Branch

Two \$125 awards in the Senior Division for outstanding projects in Civil, Structural, Environmental, or Geothermal Engineering, or related sciences.

#### Apparatus Award

A \$100 award for the project which best utilizes student-built apparatus and methodology. Sponsored by Dr. William Heffner

#### ASM Lehigh Valley Chapter

Three \$100 awards, Junior Division; and a \$200 award, Senior Division, will be given for best projects exhibiting understanding and knowledge of the physical sciences, materials and metallurgy.

#### ASME - Anthracite Lehigh Valley Section

A \$100 award in Junior and Senior Division to a project implementing engineering principles that best demonstrates a contribution to the benefit of humanity.

#### Association for Women Geoscientists

An award certificate and an honorary AWG membership for the current year to girls and young women (including cis-gender, transgender, gender fluid and non-binary persons) whose projects, in the opinion of the judges, exemplify high standards of innovativeness and scientific excellence in the geosciences and/or Earth sciences.

#### ATA Martial Arts Sports Science Award

Two (2) \$250 prizes (one for each division) - Awarded to projects that either have an element or a main focus on sports science (including but not limited to physiology, psychology, anatomy, biometrics, biomechanics, and biokinetics).

#### Berks Building Trades Project Skills Awards

A \$250 award in the Mathematics & Computer Science category to projects that represent skill and craft by the student in performing the project.

#### Berks County Conservation District

A \$500 award for the project which best represents the organization's mission: Encouragement and instruction of the wise stewardship of the soils and waters of Berks County so that present and future generations may have healthy land on which to live and clean water for drinking and recreation". The award money will be given to the student in July at the annual Scholarship and Awards dinner.

#### Berks County Dental Society

Awards of \$150, one each in the Junior and Senior Divisions, for outstanding exhibits in the field of dentistry.

#### Berks County Medical Society

Awards of \$100, \$75, \$50 in the Senior Division and \$75 in the Junior Division for outstanding projects in the medical and health field.

#### Berks County MS4 Steering Committee Award \$500 to the project that best fits the mission of the Berks MS4 Steering Committee

#### Berks Technical Institute - Innovation Award

\$100 Award to be issued to a Senior Division project demonstrating innovation in the Dental, Medical, IT Support, Electrical or HVAC related fields.

Berks Western Telecom

Two Awards of \$50 to a project that contains a technology aspect.

#### Brian Wentling Memorial

A \$100 award to the highest-ranking boy or girl in Junior Division Natural Science. The award will be presented after the Junior Division category awards.

#### Broadcom Foundation - Coding with Commitment Award

The Broadcom Coding with Commitment is recognition of a project by a 6th, 7th or 8th grade student or team, preferably from a Title I school or an underrepresented group, participating in any category and who combines:

- 1. STEM Knowledge and
- 2. Basic Coding/Computation in the project's research, design, or development, and
- 3. Expresses Passion for helping or improving his/her/their community

#### Prize Elements

- Public recognition at Broadcom Foundation-sponsored competitions and showcases, with the receipt of a formal award certificate from the Broadcom Foundation, and
- \$250 USD Gift Certificate, and
- Raspberry Pi Pico Kit

#### Code Relief, LLC

Two \$50 awards to Muhlenberg School District students (Middle School if possible) for the most engaging and creative model or backboard that convey a clear understanding of their chosen topics.

#### Conrad Weiser Lions Club

Four \$50 awards. \$50 each to two Conrad Weiser High School and two Conrad Weiser Middle School students whose projects best show application to Lions Club vision of helping others.

#### Diocese of Allentown

A \$30 award to the highest-ranking girl from a parochial school in the Junior Division, and an environmental science and technology award of \$30 will be given in the Junior Division or Senior Division to a student from a parochial school.

#### East Penn Manufacturing Excellence in STEM Award

Awards of \$125, one each in the Junior and Senior Divisions, for outstanding projects dealing with batteries or energy storage.

#### **Element Environmental Solutions**

The following four awards are for projects that convey a clear understanding of the chosen topics, were enlightening, used good scientific method and were just plain FUN to judge.

- \$50 Award for the Junior Division Natural Science
- \$50 Award for the Junior Division Physical Science
- \$100 Award for the Senior Division Biology, Botany, Zoology and any topic in the other classes that apply to more Natural Sciences
- \$100 Award for the Senior Division Physics, Chemistry, Environmental Science, Engineering, Medicine/Health and any topic in the other classes that apply to more Physical Sciences.

#### Entech Engineering, Inc.

Three awards of \$50 in the Junior Division and one \$100 award in the Senior Division for projects which display creative concepts and could lead to useful inventions.

#### Frank D. Herron Memorial Award

In memory of the long-time director of the Reading-Berks Science and Engineering Fair, two awards of \$75 each for the most unusual projects exhibited.

#### Fraternal Order of Police, Lodge #9, of the City of Reading

The Sgt. Donald Matz Award of \$1000 for the most outstanding project in forensics or chemistry.

#### IBEW Local Union 743 International Brotherhood of Electrical Workers Awards

Two \$250 awards for projects from either Senior or Junior divisions that incorporate electricity in a safe, knowledgeable, and interesting way. Sponsored by the Electricians Local 743.

#### Junior Division Sports Equipment Award

Mike & Rose Gerhart present two \$50 awards in the Junior Division for a project that incorporates sports equipment to test the hypothesis. Presented by Mike and Rose Gerhart.

#### Lehigh Valley Section of the American Chemical Society

A \$250 award to the winner of the Chemistry Division. A \$250 award to the best project using chemistry in the Junior Division. The award will be presented after the Senior Division category awards are presented.

#### Lemelson Early Inventor Prize

In partnership with The Lemelson Foundation, the Society is offering a \$100 award and certificate to a 6th-8th grade inventor creating an invention that represents a promising solution to a real-world problem. Inventions can be devices, or they can take the form of novel methods or processes (for example, inventing a carbon sequestration process or creating a biomarker to detect disease).

#### Mohnton - Cumru Lions Club

Five \$100 awards to Governor Mifflin students whose project best show application to supporting community.

#### NASA Earth System Science Award

Certificate and Invitation to a Webinar with NASA Scientist presented to the student whose project offers the greatest insight into the earth's interconnected systems.

#### National Oceanic and Atmospheric Administration (NOAA)

A Letter of Congratulation and an Award Certificate for the project whose research emphasizes NOAA's mission of Science, Service, and Stewardship: "To understand and predict changes in climate, weather, oceans, and coasts, to share that knowledge and information with others, and to conserve and manage coastal and marine ecosystems and resources.

#### Office of Naval Research - U.S. Navy / U.S. Marine Corps

The Office of Naval Research (ONR) is committed to supporting science, technology, engineering, and mathematics (STEM) initiatives and programs for our nation's young students. Achievement certificates, Medallions and \$50 gift cards to students with outstanding exhibits in the Senior Division, and certificates and medallions to selected students in the Junior Division.

#### Penn State Berks, Science Division

Three awards of \$100 for the best projects in agricultural science, biological science and physical science. One award of \$50 for best use of data and statistics.

#### Project Excellence Award

Organization Management Services presents a \$150 award to Senior and a \$100 award to Junior Division students for exhibits that demonstrate project excellence through appropriate use of project notebook, well written project report, thought out project display, and proper use of the scientific process. Sponsored by Organizational Management Services.

#### Reading Bakery Systems

(1) \$100 award for the most complex exhibit involving food science.

(1) \$100 award for the most unusual exhibit involving food science.

#### Reading Science Center

Award to the most unique project or approach and student enthusiasm in the 6th grade Junior Division. Awards of one (1) Family Membership for one year as well as a science kit from the Reading Science Center.

#### Regeneron Biomedical Science Award

Regeneron Biomedical Science Award to be awarded to Senior Division.

This award will provide a \$375 award and a certificate to an exceptional student scientist who not only demonstrates an impressive command of biomedical science and research but also embodies Regeneron's core values and behaviors, known as The Regeneron Way, which are reflected in the award selection criteria.

#### **Ricoh Sustainable Development Award**

Certificate to student, whose outstanding project addresses issues of environmental responsibility and sustainable development and incorporates principles & technical innovations that offer the greatest potential for increasing our ability to grow environmentally friendly & socially responsible businesses.

#### Schatz Electric

An award of \$250 presented in memory of Harold Bucks for projects that display practical use of electrical or electromechanical devices. An award of \$250 presented in honor of Al Happ, Instructor, Berks Career & Technology Center, for projects that display practical use of electrical or electromechanical devices.

#### Scoboria Family

A \$200 award to the winner of the Physics Division. Also, a \$100 award in the Junior Division for the best Physics Project.

#### Senator Judy Schwank

Awards of \$50, one each in the Senior and Junior Divisions, for outstanding exhibits in agriculture, horticulture, plant science, or related fields.

#### Society for In Vitro Biology

The Society for In Vitro Biology (SIVB) provides one (1) award and Membership in SIVB at each Regional/State ISEF Competition. It is intended that this recognition be awarded to the most outstanding 11th grade student exhibiting in the areas of plant or animal in vitro biology or tissue culture. In addition, it is possible that the recipient will be contacted by our society and invited to submit an abstract of their work to our annual meeting.

#### Total Experience Learning at Albright College, Innovative Changemaker Award

Total Experience Learning at Albright College, Innovative Changemaker Award Winners Free Summer Program Membership, 1 Senior and 1 Junior division winner.

#### U.S. Agency for International Development (USAID)

The U.S. Agency for International Development (USAID) is pleased to offer one (1) Science Champion Award (Certificate), Social Media Toolkit, and webinar with USAID's Chief Scientist to recognize an exceptional individual student exhibiting at the fair that has the potential to make an impact on addressing international development challenges. It is intended that this recognition be given to the most outstanding project with relevance to solving an important global development challenge.

#### U.S. Metric Association

Certificate and 1 Year of Membership to the US Metric Association for a research project that expresses measurements in the SI is an ideal candidate for this award. All reported measurements, including calculations, data, graphs, and conclusions should be expressed exclusively and accurately using the SI.

#### United States Air Force

A certificate and award package to students for best exhibits in mathematics, science, and engineering. The award packages include a sling pack, Power Bank, USB Flash Memory Drive, USB Car Charger, and Official AF Certificate.

Valley Forge Chapter, Pennsylvania Society of Professional Engineers

Scott G. Daelhousen Engineer's Award

Awards of \$300 to the Grand Champion and \$200 to the Champion. The Grand Champion award is funded by the Scott G. Daelhousen Engineer's Award endowment and distributed by the Berks County Community Foundation."

#### Witzel Sound Solutions

One (1) \$100 Junior Division prize and one (1) \$100 Senior Division prize for the most unique project applying sound/audio concepts (e.g., sound waves, sound pressure, sound production, sound engineering).

#### Worley

One \$100 award for the Junior Division and one \$100 award for the Senior Division for the most outstanding project investigating anything associated with power generation, distribution, or storage.

#### Yale Science and Engineering Association

Preliminary Certificate to the most outstanding 11th grade project exhibiting in the areas of Science, Technology, Engineering and Mathematics. In extraordinary cases it may be awarded to a 10th or 12th grade project.

## **CATEGORY EXHIBITS**

DIVISION	CLASSIFICATION	CODE
SENIOR - 9th - 12th Grades	Behavioral and Social Sciences	BS
	Botany	BO
	Chemistry	СН
	Earth and Environment	EE
	Engineering	EN
	Mathematics and Computers	MC
	Medicine and Health	MH
	Physics and Astronomy	PA
	Zoology	ZO
JUNIOR - 6th - 8th Grades	Natural Science Physical Science	6N, 7N, 8N 6P, 7P, 8P

### **CATEGORY EXHIBITS LISTED BY SCHOOL**

## Berks Catholic High School

<u>Student</u>	Title	Exhibit #
Barbera, Prudence	What Carbon Filter Works the Best to Remove Antibodies?	CH001
Bookser, Sadie	Which Beverage Has the Most Electrolytes?	CH006
Brugger, Sofia	Is It Possible for a House to Reach a Neutral Energy Consumption?	EE009
Burkey, Serena	Which Biodegradable Alternatives to a Plastic Straw are Most Durable?	EE005
Cirandine, Ilaria	Which Acidic Drink Will Damage Teeth Enamel the Most?	MH006
Cunningham, Audrey	What Sports Drink Brand Contains the Most Red Dye?	CH003
Do, Jada	Salt and Shine: A Tarnished Image	CH004
Drumheller, Micah	The Power of the Line	PA045
Frey, Gabriella	How Many Sugars Are in Your Smoothie?	MH004
Gutierrez, Janiel	Converting Heat into Electricity	CH007
Hearing, Molly	It's Gluten Free, But Is It Safe for Me?	MH008
Huston, Libby	Electrolyte Showdown: Which Sports Drink Provides More Electrolytes?	CH027
Impellizzeri, Grace	How Clean is Your Water?	EE031
Junikiewicz, Ava	Which Popular Brand of Water Bottle has the Best Insulation?	PA033
Krajsa, Parker	What Type of Deodorant Works Best for Normal Skin?	BS002
Lenzi, Priella	What Compost Works Best?	BO001
Machion, Timothy	From the Ground Up	BO002
Mancebo, Heidy	Are Fingerprints Inherited?	MH007
Martin, Cole	Does Height Affect the Diameter of Blood Spatters?	PA032
Moody, Samuel	Which Water Filter Removes the Most Carcinogenic Contaminants in Water?	EE007
Morales, Niyah	Tri-ing the Angles	PA042
Morganti, Matthew	How Does Temperature Affect the Blue Glow of Luminol?	CH025
Newswanger, Peyton	Chemistry in the Kitchen!	CH005
Nguyen, Hong	Which Type of Paper Airplane Fly the Farthest?	PA034
Ottinger, Sophia	Does Music Affect Plant Growth?	EE006
Parada Estrada, Logan	How Much EMF Radiation Is in Your Home?	CH008
Perlman, Rosie	Stopping Blood Flow: What is the Most Effective Method?	MH003

Schnatz, David	Can You Build a Table Out of Recycled Cardboard?	EN005
Sebastian, Emily	The Effect of Orange Juice Sugar Content on Tooth Enamel	MH005
Sharer, Matthew	How Does the Distance a Golf Ball Travels Change with Club/Iron Used?	PA003
Walton, Madeline	Bridge Strength	PA038
Yoder, Mallory	Do Winglets Make a Paper Airplane Flight More or Less Efficient?	PA004
Zamora, Maria	Do Sound Waves Differ/Fluctuate Depending on the Environment?	EE008

## Conrad Weiser High School

<u>Student</u>	Title	<u>Exhibit #</u>
Baker, Aubrey	Cortisol Levels Differences in Cows Milked in Parallel and Robotic Parlors	ZO003
Brant, Dahlia	Human Stress Response to Sound Frequency	BS001
Horack, Allie	Managing Invasive Plants to Reduce the Abundance of Blacklegged Ticks	EE014
Martino, Aleena	Electrical Conductivity of Metals Using Electrons from Microbial Fuel Cell	EE001
McGarrigle, Justin	Polarizing Macrophages to an Anti-inflammatory Phenotype	MH001
Miller, Finnegan	Mycoremediation and Filtration of Per- and Polyfluoroalkyl from Water	EE003
Neiswender, Kaden	Quality of Biofuel Made from Chlorophyta Species	CH029
Robinson, Brady	The Effect of Different Nanofluids Being Used in CPU Liquid Cooler	MC001
Stoica, Robert	PVC Impact of Dictyostelium Discoideum Growth and Reproduction	EE029
Wartzenluft, Garth	Inhibition of Quorum Sensing Within Staphylococcus Epidermidis Biofilm	MH035

Exhibit #

### Conrad Weiser Middle School

Title

#### Student

Baker, Jackson	How Does Infill Percent Affect Flight on a 3D Printed Glider?	7P004
Balde, Abdoulaye	The Effect of Basketball Shoes on a Vertical Jump	6P010
Baluta, Kamden	How Does the Structure of a Bridge Affect the Weight It Can Carry?	8P023
Bassetti, Ty	Does the Brand of a Football Change the Distance It Travels?	6P030
Baxter, Elliot	The Effect Temperature Has on Pitch	8P015
Bender, Colin	Are Fingerprints Inherited?	7N043
Berger, Benjamin	Paper Airplane Aerodynamics	6P027
Bieber, Bruce	Will a Concrete Boat Float?	8P019
Brant, Gwyneth	Creative vs. Analytical, How People Perceive Optical Illusions	7N045
Bruno, Kayleigha	The Effect of Temperature on a Magnet	7P001
Capretti, Montgomery	The Effect of Contact vs. Non Contact Sports on Reaction Time	6P031
Christman, Nathan	Does Age Affect What is Seen in Illusions?	6P028
Ciemiewicz, Connor	The Effect of Nature on Bridge Structures	6P005
Cohen, Anderson	What Effect Does Distance Have on the Sound of a Trumpet?	6P002
Dawson, Liam	Sound Absorbing Materials Evaluating Cost and Effectiveness	7P002
Dobbs, James	How to Supercool Water	8P004
Emmel, Olivia	Effect of Blood Pressure on Daily Activity's	8N004
Fabien, Isaiah	Does Water Temperature Effect Plant Growth?	6N005
Feeg, Haden	The Effect of Mallet Material on the Mallet Key	8P003
Fessler, Macey	The Amount of Feed Growth in Two Hours	7N009
Flores, Aydyn	What Are You Swimming In?	7N008
French, Ariadne	Exercises With and Without Sugar	6N007

French, Declan	How Does Temperature Affect a Battery's Voltage and Function?	6P001
Gelsinger, Sarah	Do Dogs Have Favorite Toys?	8P022
Harting, Lincoln	The Effect of Different Flavors on Focus	8P043
Harting, Mason	Are Fingerprints Inherited?	8P010
Himmelberger, Evan	The Benefit of Wearing Grip Socks for Speed and Agility	7P005
Hitchcock, Abigail	How to Make a Battery	8P046
Hunt, Miles	The Effect of Exercise on Brain Power	8P002
Joseph, Elica	Does Vitamin C or Vitamin B help Plants Grow Faster?	7N010
Kauffman, Chase	Intelligence: Genetic or Environmental	8N008
Kennedy, Michael	How Does Sleep Effect Accuracy in Golf?	7N003
Kline, Alexander	Turf vs Grass Impacts on Soccer Ball Movements	7P059
	-	6P025
Klitsch, Laura	Bouncy Balls? Which Bounce the Highest?	
Knoll, Sebastian	Vacuum Purification	8P056
Kofsky, Ava	The Effect of Literary Genre on Acadience Score	7N044
Kohl, Meadow	Tattoo Tester	8P038
Krick, Alexis	The Relationship Between Leaf Type and Rate of Decay	7N015
Lall, David	Effects of Different Soaps on Skin Bacteria from Wrestling Mats	7N040
Lefler, Bryant	Training with a Weighted Vest vs. Without	7P014
Lewis, Josephine	The Effect of Sugar-Free Foods on Brain Function	8P012
Marquez, Florencia	Is a 3D Printed Lego Piece or a Regular Lego Piece Cheaper?	8P001
Martinez, Desirae	The Effect of Yoga and Meditation on Test Scores	8P005
Masi, Peyton	Does Gatorade Affect Athletic Performance?	7N038
Mazurek, Steven	Does The Type of Baseball Bat Really Matter?	6P034
Meredith, Liam	What Hydroponic Growing Media Works Best for Lettuce?	7N007
Metzger, Emma	The Effect of Color on The Food Choice of a Donkey	6N012
Miller, Austin	How Dizziness Affects Reaction Time	8P066
Miller, Caden	Which Fruit Rots the Fastest? Which Fruit Rots the Slowest?	6N014
Miller, Piper	Storage Temperature Effect on Concentration of Vitamin C in Orange Juice	7N001
Miller, Tyce	The Effect of Pickle Juice in Killing Weeds	7N013
Misiti, Chiara	The Effect of Different Types of Gum Flavor on Concentration	7N014
Morales, Lilly	The Effect of Colors on Learning	6P007
Morris, Camryn	Marvelous Muffins	6P024
Mortland, Cambria	What Growing Medium is Best for Growing Produce Indoors	8N021
Nakonecznyj, Nathan	Which Bat Is Better: Wood or Metal?	7P009
Neider, Scarlet	The Effect of Rachis and Calamus of Bird Feathers on Bioplastic Production	8N001
Niculcea, Lucas	How Traction is Affected by Different Tires on Different Surfaces	8P016
O'Leary, Anika	How Music Affects Focus	7N042
Orth, Marly	Does the Environment a Person Is in Affect How Well They Creatively Write?	8N005
Owsiany, Sophi	What Color of LED Light Helps Plant Growth the Most?	7N012
Parham, Devon	How Does Crowd Noise Affect Sports Performance?	8P008
Pinnell, Hannah	How Does the Coarseness of Wool Affect Needle Felting?	7P012
Polak, Ewelina	What Should You Use/Do to Get Rid of Acne and Bumps?	7N041
Rankin, Kaylee	Hairspray that Holds a Curl the Longest	8P018
Reyes Lebron, Alanis	How to Make a Homemade Lava Lamp	7P011
Rhyder, Haylee	The Effect of Smell on a Person's Ability to Taste	7N002

Rice, Ilina	How Screen Time Before Bed Affects Sleep	7N004
Rice, Sawyer	Making Dough by Making Hooch: A Wild Sourdough Experiment	8N002
Robison, Lyla	Can Color Affect Reading Comprehension?	8P009
Rohrbach, Andrew	The Effect of Different Juices on Bacterial Growth	8N006
Santana, Leah	How Does Music Affect Performance?	8N022
Santoro, Gabriella	The Effect of Location and Apple Type on Oxidation Over 36 Hours	8P013
Sattazahn, Presley	The Impact of Ingredients in Chocolate Chip Cookies	8P040
Schott, Liam	Overclocking an Older GPU to Allow It to Compete with a New Generation GPU	
Seidel, Jordan	Where Does Targeting Happen More, in the Sky or on the Ground?	8P014
Sellars, Cooper	The Effect of Bat Construction on How Far a Hit Baseball Travels	6P004
Shade, Nora	Original or Freeze-Dried?	8P020
Shaffer, Brooke	Oops, I Added Too Much!	6P006
Shaffer, Kaitlyn	How Much Bacteria Can Grow on a Makeup Sponge Over Time?	8N020
Shesniak, Emmalie	The Brownie Box Mix Battle	7P015
Skipper, Brayden	Which Homemade Thermos Keeps Coffee Warm the Longest?	7P017
Smith, Autumn	What is the Most Accurate Release Mechanism When Throwing a Change-up?	8P017
Smith, Sonja	Can Bite Marks Be Differentiated Just by Looking at Them?	8P006
Snyder, Jacob	Can a Van De Graaff Generator Light Up A Light Bulb?	6P035
Speicher, Gabriel	The Cytotoxicity of Epipremnum Aureum Against Fungi	8N007
Stankiewicz, Deziree	The Effect of Mass on the Duration of A Tornado	6P009
Stoica, Natalie	The Effect of Light's Angle and Distance on the Visibility of the Sky in a Picture	8P021
Stoy, Kellen	Wing Shape Impact on Bottle Rockets	7P021
-	Melting Power	6P003
Strine, Kinsley Summers, Morgan	Real Sugar vs. Fake Sugar and Their Effects on Teeth	7N039
Sweigart, Chase	The Effect of Artificial Light on Daphnia Heart Rate	8N003
5		7P019
Troutman, Kyra	Which Nail Polish Brands are Lonest Lasting?	8P044
Ulrich, Vaughn	The Effect of Temperature on Different Sports Balls' Kilopascal	
Unger, Baron	Blue Light and Students: How They Impact Each Other	6P026
Weiler, Michael	Do Newer Devices Really Work Better Than Older Ones?	8P025
White, Braedyn	Distance of Soccer Ball Kicked with Different Places of the Foot	8P037
Yeung, Tivian	The Effect of Exercise on Food Cravings	6P011
Zerbe, Andrew	What Is The Best Stance When Shooting A Free Throw?	6P012

## Daniel Boone High School

<u>Student</u>	Title	<u>Exhibit #</u>
Ferenz, Tyler	The Influence of Visible Light on Consumption Rate of EPS by Z. Morio Larvae	ZO002
Fleetwood High	School	
<u>Student</u>	Title	<u>Exhibit #</u>
Zhang, Steven	3D Printed Mechanical Microcompressor for Cell and Specimen Immobilization	EN020

## Governor Mifflin High School

<u>Student</u>	Title	Exhibit #
Abdelkader, Ahmed	The Effect of Cardio/Weightlifting on Heart Rate	MH021
Adams, Chase	The Effect Of Different Golf Ball Covers On The Distance	PA009
adams, gabe	Ants Preferable Soda	ZO014
Alexis, Calvin	Does the Color of Font Affect Reading Speed?	BS005
Angstadt, Sarah	The Effect of Sugar on SCOBY Growth and Development	EE025
Aponte-Ruiz, Janely	The Effect of Soil Obstacles on the Height of a Plant	EE024
Arnold, Colin	Does the Amount of Air Pressure Matter when Kicking a Soccer Ball?	PA012
Bausher, Noah	The Effect of Cleaning Frequency on Solar Panel Energy Output	EE018
Belinski, Stella	The Effect of Sweetener Type on CO2 Produced by Yeast Fermentation	CH016
Bolles, Tessa	Can Dogs Differentiate between Human Colors?	ZO007
Bortz, Jack	Does the Placebo Effect help you Perform Better Calisthenics	MH026
Boyer, Mikayla	The Effect of Obstacles in the Soil on Time a Sprout Reaches Soil Surface	EE016
Byrne, Patrick	Surface Speed Test	PA016
Caron, Camryn	Humans Vs. Artificial Intelligence	BS013
Carroll, Kendall	Oral Hygiene in Cats and Dogs	MH031
Chafin, Cole	Basketball Shots	PA028
Clemmens, Autumn	The Effect of Candy Given (Extrinsic Motivation) on Intrinsic Motivation	BS014
Colf, Macie	The Effect of Renewable Wrappings on Fruit Preservation	EE015
Cruz, Josiah	Do Video Games Help Your Reaction Time?	BS023
Davis, Will	The Effect of Scents on One's Ability to Perform Multiplication Problems	BS024
DeBellis, Logan	The Effect of Humidity on a Softball Hit	EE023
Devargas, Jaedoeg	Blood Splatter Lab	PA025
Dietrich, Mackenzie	Do the Moon Phases Affect Your Mood?	BS021
Dipasquale, Cristiano	The Natural Amounts of Chlorine in Water Sources and Its Impacts to Humans	MH019
D'Onofrio, Gianna	The Effect of Rehearsal on a Dancer's Mental Health	BS004
Dreibelbis, Logan	How Does a Specific Substance Affect the KPH of a Baseball?	PA013
Engleman, Samuel	The Impact of Air Pressure on Soccer Ball Performance	PA024
Espinal, Eric	The Effect of Music Tempos on a Speed Typing Test	BS009
Eyrich, Lily	Fuming Fingerprints	CH019
Facey, David	The Effect of Sandy Soil Depth on Plant Growth	BO008
Feick, Karleigh	Size & Sprout: Unveiling Germination Secrets	BO014
Fichter, Dalton	The Impact of Surface on Ball Bounce Height	PA017
Forrer, Ryan	How The Topic of a YouTube Video Affects Its Success	BS016
Fredericks-Clemens, Charley	The Effect of a Dogs Saliva on Bacteria	ZO009
Garman, Colten	The Effects of Temperature on Magnets	PA030
Gehris, Jerome	The Effect of Dirt on Water Purity	EE027
George, Brooklyn	The Effect the Amount of Running Has on Number of Shots Made	PA006
Girard, Dylan	The Effect of Colored Glass on Solar Panel Output	PA037
Good, Nicholas	Can Fish Tell Time?	ZO004
Groh, McKenna	Five-Second Rule	MH017
Harner, Braxton	Paper Towel Absorption: Investigating Factors That Affect Water Absorption	PA047
Hernandez, Adrian	The Effect of Height on a Player's Shot in Basketball	PA023
Hertzog, Bryce	What an Object Looks Like through Different Glasses	PA041
Hertzog, Madison	How Does Trauma Affect Behavior in People?	BS015
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Huamanlazo, Ede	Blue Light's Effects on an Insect	ZO015
Huesgen, Alexandra	The Effect of Lacrosse Stick Head Shapes on Shot Speed	PA020
lordanescu, Gabriel	The Effects the Shapes of Wind Turbine Blades Have on Its Energy Output	EE026
Iraola-Ceely, Alex	The Effect of Bleach on Nail Decomposition	MH013
Johnson, Adelaide	The Effect of Underwater Kicks on Swim Speed	PA019
Johnson, Rianna	Plastic Paintings	EE004
Jones, Kira	Does Mint Improve Cognitive Performance?	BS030
Kellenberger, Grace	The Effect of the Exposure to Color on Blood Pressure	MH028
Kerschner, Kaitlyn	The Effectiveness of Using Human Hair Filters for Removing Oil from Water	EE022
Kim, Andie	The Effect of Fake and Real Eyelashes on Mascara Smudge Test Durability	MH034
King, Charles	The Effect of Angle of Flowing Water on Electricity Generated	EN015
Klopp, Mason	Efficacy of Antibiotics Against Escherichia Coli	MH037
Knoop, Kylie	What Other Liquids Can Benefit Your Dog?	ZO012
Kraft, Maya	What Color Do Cats See?	ZO012 ZO011
-		
Krick, Ethan	Is the Five-Second Rule Real?	MH015
Kurtz, Ethan	The Effect of the Root Media on the Root Length of Propagated Pothos	BO012
Labagh, Robert	How Does Length of Leg Sections for a Walking Mechanism Affect Stability?	EN025
Lapi, Jaymeson	Can pH Levels Affect Natural Dyes	CH028
Lash, Kenneth	The Effect of Water Amount on the Surfacing of Worms	ZO005
Leconte, Leone	The Effect of Cell Phone Electromagnetic Radiation on Orange Skin Health	MH020
Lehman, Ryan	Grow, or No?	BO010
Longenecker, Chesnie	The Effect of Total Body Fat Percentage on BMI	MH027
Lopez, Kayden	The Effect of Sports Drinks on Athlete's Performance	MH030
Machion, Nikolaus	City Lights Versus Starry Nights	PA021
Mailloux, Evan	Effects of Stress on an Individual's Ability to Perform a Set Task	BS029
Maldonado, Makayla	Feel the Rainbow	BS008
Manzueta, Genesis	The Effected of Salt Percentages on Levels of Water	EE019
Martin, Aubrielle	The Effect of Playing Instruments on Memory Recall	BS003
Martin, Bridget	Does More Expensive Nail Polish Last Longer Than Cheaper Nail Polish?	CH023
Martin, Hadleigh	The Effects of Caffeine on Mice	ZO006
Martinez, Joel	The Effect of Bacteria on Plant Wound Healing	BO006
Medianick, Anya	The Effect of Different Masses of Eggshells on Plant Height	BO011
Mendez, Saralyn	The Impact of Exercise Intensity on Physical Performance and Health	MH025
Michalsky, Jamie	The Effect of the Angle of an Injury on the Area of Blood Splatter	PA008
Mowery, Kiara	The Effect of Terrain on ATVs	PA027
Moyer, Aidan	The Effect of Virtual Reality on Heart Rate	MH033
Mulhern, Kaiya	Canine Cuisine: What Vegetables Are Beneficial for Your Dog?	ZO013
Musket, Marlee	The Effect of Photo-Biomodulation on Grip Strength	MH022
Newton, Jamison	Paint Drying on Different Surfaces	CH024
Nowakowski, Jadzia	The Effect of Types of Softwood and Wood Damages on Wood Strength	CH018
Nunez, Alexander	Do Genetics Play a Huge Role in Sports?	MH032
Orndorf, Molly	How the Taste and/or Color of a Food Affect Someone's Perception of Taste	BS020
Ortega, David	Sunlight's Effect on The Bodies Physical/Mental Activities	BS020 BS019
Orth, Dalton	How PSI Affects the Distance a Soccer Ball can be Kicked	PA011
Patel, Shan	The Bounce of a Tennis Ball on Different Surface Materials	PA010

Patton, Elizaebth	The Effect of Materials used as Water Filtration on the pH Levels of Water	EE020
Perez, Jonathan	The Effect of Wind Speed on a Wind Turbine	PA035
Peterka, Ivy	Which Type of Cloth Cleans the Best in a Standard Washing Machine?	CH021
Pham, Mason	The Effect of Different Food Groups on the Fastest Time Run	MH018
Pitruzzella, Giuseppe	The Effect of Binaural Beats on the Memory	BS010
Radiosky, Lila	The Effect of Color on Appetite	BS017
-	Investigating the Influence of Sea Salt Type on Ice Melting Dynamics	CH013
Rey, Konnor	The Effect of Body Positioning on Time to Get Around the Bar Doing Giants	PA014
Rodrigeuz, Evan	Different Soils Different Plant Growth	EE030
Romanski, Evie	The Effect of Different Weight on Different Bridge Designs	PA040
Rowe, Abigail	The Perception of Color on Taste	BS006
Rowley, Gracie	The Effect of Political Speeches on Heart Rate	MH023
Ryan, Peter	Distance Thrown Using a Football Influenced by the Different Grips	PA022
•	The Effect of Temperature on a Golf Ball's Travel Distance	PA015
Sangha, Kuljeet	The Effect of Light Intensity on the Rate of Photosynthesis	BO009
Schlappich, Kallista	The Effect of Narrowing Arteries on Blood Flow	MH036
Schmehl, Mea	The Effect of Plant Roots on the Filtration and Clarity of Water	EE021
Schmidt, Amelia	The Effect of Planning and Positive Habits on Mental Welfare	BS018
Schrufer, Madison	Different Ingredients Affect Crystal Growth	CH022
Semsel, Gabriel	The Effects of Wind and Air Resistance on Roller Coasters	PA036
Shuker, Charles	The Effect of Firing Temperature on The Porousness of Ceramics	CH017
Shultz, Mason	Does Color Influence Memory?	BS022
Skipper, Caeson	How High a Basketball Bounces on Different Materials	PA007
Solalinde, Yareli	Sugar's Sweet Dreams: Unraveling its Impact on Sleep Patterns	MH014
Spayd, Madelyn	Media vs. Memory, What's Best for Memory Retention	BS012
Specht, isabella	The Effect of Sulfates on Hair	CH014
Spell, Christopher	Burn Baby Burn!	CH020
Stanziola, Maria	Bad Lash Day! Mascara and its Effect on Bacterial Growth	MH024
Strausser, Riley	How Does Magnetism Affect the Behavior of Insects	ZO008
Stricker, Evelyn	Is a Dogs Mouth Cleaner Than a Humans Mouth?	MH029
Sweigart, Melissa	Rubber Band Heat Engine	PA029
Taylor, Ethan	How the Design of a Bridge Affects Its Effectiveness to Hold Up Weight	PA043
Terrell, Reece	The Effect of Time Restriction Given on the Memory of a Test Subject	BS007
Terreson, Robert	The Effect of Copper Wire Amount on Motor Effectiveness	PA048
Thomas, Kyla	Human Weight to the Number of Cups	PA039
Topieniak, Reese	Which Type of Teeth Whitening Agent Works Best on Stained Teeth?	MH016
Turner, Gianna	The Effect of Chemical Spills on Marine Invertebrates	EE028
Ulrich, Samuel	Can Temperature Destroy People's Game Play in Tennis?	PA018
Urbina, Gabriella	The Effect of Detail on Memory	BS011
Urbina, Liliana	The Effect of Mood on Memory	BS025
Mulhern, Kaiya	Canine Cuisine: What Vegetables Are Beneficial for Your Dog?	ZO013
Vang, Chloe	The Effect of Window Screens on Plant Growth of the Pilea Plant	BO007
Velez, Joshua	The Effect of Coffee Grounds on Roly Polies	ZO010
Wentzler, Joseph	How Does a Drone's Flight Time in the Real World Compare to Lab Testing?	PA044
Weyant, Donovan	How Different Shoes Affect Athletic Performances	PA026

Zale, Atticus	The Effect of Different Electrolytes on the Gas Production of Electrolysis	CH015
Governor Miffli	n Middle School	
<u>Student</u>	Title	Exhibit #
Rosenbaum, Declan	Do Weather Events and the Placement of Streams Affect Nitrate Levels	8N045
Holy Guardian	Angels	
Student	Title	<u>Exhibit #</u>
Achenbach, Leah	What Light Is Right?	7N030
Bray, Sydney	Detergent Dilemma: Which Laundry Detergent Removes Coffee Stains Best?	8P057
Cobos, Yamilee	Which Water Bottle Holds Ice the Longest?	7P027
Coccia, Vincent	Cleaning Products Eco-Friendly vs. Store Bought	8P061
Cortes, Peter	AI vs. Human - Which is Better?	8N029
Cruz, Maya	Do Colored Candles Burn Faster Than White Candles?	8P079
Flynn, Dina	Fast and Furious Flux	7P047
Gensemer, Edward	Radiation in Soil	6N008
Giron, Estelianie	Mind and Body Reaction Time	6P008
Kroenig, Collin	Does Mineral Content Affect the Rate of Ice Melting?	8P069
Laceda, Lia martina	What Types of Beverages Stain Your Teeth?	7N035
Rothermel, Matthew	What Substance Works Best to Clean Pennies?	8P067
Routledge, TréLisse	How to Keep Apple Slices from Turning Brown	6N006
Rubert, Elaine	Soap and Water vs. Hand Sanitizer	7N033
Rundle, Marcus	What Objects Make Bubbles?	6P023
Sabatucci, Giancarlo	How Accurate Is the Sugar Per Serving on Soda Labels?	7P056
Schearer, Alison	Cake Flour vs. All-purpose Flour	7P053
Schuenemann, Riley	DNA of an Onion	7N020
Sekel, Dejalyn	What Smoking Does to the Lungs	8P049
Sullivan, Shayla	What Uses Less Energy?	7P026
Swavely, Meredith	What Scent Best Supports Memory?	8N039
Taimanglo, Evan	Come Fly with Me	6P032
Thompson, Giavanna	Polluted Plants	7N032
Torres, Victor	Which Dish Soap Can Remove Grease the Best?	8P054
Wentzel, Nicholas	Electrolyte Challenge: Orange Juice vs. Sports Drinks?	7P050
Wentzel, Owen	Best Type of Soil to Grow Radishes	8N040
Zellers, Alexandra	Baking Powder Power	7P055

## Kutztown High School

<u>Student</u>	<u>Title</u>	Exhibit #
Donkus, Cole	Temperature vs. Consumption of Microplastics by Pestalotiopsis Microspora	EE012

## LaSalle Academy

<u>Student</u>	<u>Title</u>	<u>Exhibit #</u>
Basehoar, Catherine	Coastal Chaos	8N037
Buono, Drew	Shoe Performance	8P072
Burt, Ari	Moldy Already?!	8N011
Cannon, Abigail	Bye-Bye Bugs!	8N010

Cartin, Penelope	Battle of the Senses	7P049
Draper, Kohen	Conductivity of Waters and Compounds	7P007
Fries, Lydia	Raise Your Gaze: Look Up to Green Roofs	8N033
Frutchey, Carson	Good Cheesecake Takes Patience But Then Again So Does Science	6P033
Gable, Samuel	DEFLATE GATE	8P070
Hendrix, Christian	Shining Light on Sunscreen	8N009
Hoke, Madison	How Dirty Are Your Makeup Brushes?	7P051
John, Awele	Gummy Growth Spurt!	8P071
Karwejna, Sarah	Filter Forces	7P048
Kutzer, Zoey	The Beverage Stain Test	6N015
McNear, Madison	I See You	7P054
Morrissey, Tessa	Under Pressure	7P052
Musallam, Giavanna	21st Century Crime Fighting Elements	8N012
Orient, Lillian	Nailed It!	8P068
Pflomm, Nora	Going Bananas!	8N036
Reali, Alyssa	Wake Up	6N016
Reinard, Juliana	Catch A Vandal with Chromatography	7N005
Ritter, Jack	Eye Spy	8N013
Rodriguez, Emma	Feel The Music	7N006
Rogers, Teagan	Time Is of the Essence	6P029
Zhingre-Kelly, Suannabelle	e Recycling	7N031

## Muhlenberg High School

<u>Student</u>	Title	Exhibit #
Campoverde, Emma	Glamour or Germs? Unveiling the Hidden World in Your Makeup Bag	MH038
De Los Santos, Ashley	Teen Minds Matter: Identifying the Most Effective Therapy for Teenagers	BS026
DiStefano, Amabelle	Drink Up Buttercup!	BO013
Eckert, Tyler	The Edge in the Kitchen	PA046
Evans, Samson	A Trip Down Memory "Maze" with the Leptuca Pugilator	ZO001
Gahuancela, Dana	Effect of Medication on Hair Follicle Health	MH002
Henly, Dalhendji	Surface Secret: Quantifying Friction in Pirouette Dynamics	PA002
Houser, Joan	Dead Coral Lives On	EE002
Maftei, Matthias	PullTone: Your Doorway to Elbow Rehabilitation	EN001
Markwood, David	Beyond the Sidewalk: A Quantitative Analysis of Urban Walkability	MC002
Ramkissoon, Nathan	Blue for You	EN009
Wagner, Quinn	Green Algae: Fuel through Fermentation	CH011

## Muhlenberg Junior High School

<u>Student</u>	Title	<u>Exhibit #</u>
Chopra, Sanaya	H20 Density At Work	8N034
Cirulli-Ramirez, Christopher	Turning Trash into Treasure: The Science of Biogas	8N031
Dieter, Morgan	It's the Ripe Time for Produce to Take Action!	8P074
DiStefano, Alexander	What the WiFi	8P062
DiStefano, Jackson	Put a Cork in It! Does Corking your Bat Increase Exit Velocity?	8P063
Doyne, Camryn	What's the Best to Digest?!	8P053
Isamoyer, Hailee	The Dirty Truth About Makeup	8N041

Mendoza, Sierra	Color Impact On Memory	7P044
Rosario, Ariel	Apple Revival! The Preservative Effects of Energy Drinks	8N030
Smith, Brycen	Salty, Smoked or Submerged: Which Preserves Best?	8N035
Taveras Franco, Oliver	Water Elevator; An Alternate Way of Hydraulic Elevators?	8P064
Vy, Lily	Got Trash, You Know Who to Call, The Superworms!	8N032
Wagner, Peyten	Fireproof Fabric	8P060

### Sacred Heart School

Student	<u>Title</u>	<u>Exhibit #</u>
Abreu, Calista	Can Music Affect Plants?	8N044
Hauser, Anthony	Determining Gravity	7P046

### Saint Catharine of Siena School

<u>Student</u>	<u>Title</u>	<u>Exhibit #</u>
Baldwin, Jalia	Testing Flour	7N024
Beltran, Alejandro	Strongest Paper in Water	7P038
Damon, Jacksen	Strongest Paper Towel in Water	7P040
D'Angelo, Joseph	Size Matters	7P032
Drake, Sirius	The Best Cereal to Eat and Leave Around	7N026
Engler, Savanna	Testing If M&M's Slogan Is Correct, "Melts in your mouth, not your hand."	7N025
Foreman, Bailey	Which Detergent Is the Best?	7P029
Galan, Alivia	Race Car Surfaces	7P030
Hill, Carly	Want Some Orange Juice With Your Sugar?	7N028
Klinger, Norah	Which Temp?	7P028
Kozik, Nicholas	What Is the Strongest Tape?	7P036
Lawlor, Caroline	Chill Out!	7P033
Lin, Selina	Getting Fizzy With It!	7P037
Mckeone, Jack	What Is the Best Insulation?	7P035
Oswald, Vaughn	Reaction Action!	7N027
Pena, Candida	Makeup Durability	7N022
Pollock, Cecilia	Cookies and Milk	7N023
Tanaka, Kirra	Where There's Fire	7P034
Walton, Alice	The Need for Speed	7P031
Wheeler - Fortner, Nayanna	Which Nail Polish Is the Strongest?	7P041
Wisniewski, Sara	The Science Behind Art	7P039

## St. Ignatius Loyola School

<u>Student</u>	Title	<u>Exhibit #</u>
Burkman, Wyatt	Which Drink is Best After a Workout?	8P055
Casimir, Jaden	The Impact of Size on Water Clocks	7N037
Colon, Brennox	Which Can Will Be Crushed More By Air Pressure?	7P045
Freed, Ava	Food Storage Matters - Which Food Storage Keeps Food the Freshest?	7N017
Giesa, Dominic	Does a Candle's Color Affect How Much Time It Spends Burning?	8P077

Gross, Sabrina	Do Ice Cream or Popsicles Melt Faster?	7P057
Herman, Matthew	Which Drink Damages Tooth Enamel the Most?	8P047
Jimenez, Yaell	Is a Potato Battery Better Than a Normal Battery?	8N043
Langumas, Jasper	What Type of Water Has the Best Growth for Plants?	7N018
Lanza, Joseph	Which Food Will Mold the Most in Two and a Half Weeks?	7N021
Lanza, Joshua	Do the Wheels Affect How Far a Balloon Powered Car Goes?	7P058
Mercado, Olivia	How Much Salt Will Make an Egg Float?	8P078
Mills, Keira	What Liquids Stain Teeth the Most?	7N019
Motley, Goldie	How to Wash Produce	7N029
Napoli, Adrianna	Do White Candles Burn Faster Than Colored Candles?	8P058
Newswanger, Delaney	Does Soaking Apples in Liquid Affect Rotting Time?	7N036
Perate, Dominic	Gummy Bear Growth	7P043
Plevrakis, Ariana	The Affect the Environment has on a Banana's Ripening Process	8P052
Reimels, Ella	What Makes the Cookie crumble?	8P073
Roberts, Franki	What Melts Ice?	7P025
Roffer, Elliott	Effect of Wavelength Reflection and Penetration in Rain and Fog	8P075
Sobota, Alexander	Which Filter Is Best?	8N038
Stringer, Sullivan	Is The Five Second Rule True?	7N016
Wong, Alicia	What Hand Sanitizing Practice Eliminates Bacteria the Best?	8N026
Zudie, Esperanza	Which Sports Drink Contains the Most Electrolytes?	8P051

## Schuylkill Valley High School

<u>Student</u>	Title	Exhibit #
Swift, Eric	Should You Consider Natural Remedies Over Commercial Drugs?	MH039

## The King's Academy

<u>Student</u>	Title	<u>Exhibit #</u>
Arcoleo, Linden	Flower Fatality	8N025
Caruso, Anthony	Flying Failure	6P021
Garretson, Sophia	The Magic Can	8P041
Johnson, Ella	Race of the Paddle Boats	6P022
Kindig, Frederick	Stupendous Slingshots	6P017
Koncsics, Lydia	Breath of Fresh Air	BO003
Kratz, Lillian	Generating Milk with Tunes	8N024
Leija, Carla	Melting The Ocean	6P019
Levan, Sierra	Essential Oil Stimulation	MH010
Mast, Norah	Speedy Ice	6P020
Mast, Sophia	The Weight of Pennies	6P018
McMenamin, Kayla	Mallow Madness	6P015
Meck, Novalynn	Living the Sweet Life	BO004
Rhoads, Kalina	Dying To Be Dyed	8N023
Rhoads, Malaina	Filtering Fun	6N011
Schmaldienst, Sami	The Sound of Silence	PA031
Snyder, Lily	Parachute Pursuit	6P014

Wiand, Ethan	The Reaction Race	6N009
Wiand, Isaac	Distraction in Action	6N010
Witman, Lucas	Down Hill Demolition	6P016
Yoder, Sebastian	Eggcellent Eggs	6P013

## Wilson High School

<u>Student</u>	Title	<u>Exhibit #</u>
Aman, Calia	Comparing Biomimetic Shapes and Stealth Aircraft	PA001
Ferenchick, William	Modification of the Rocker-Bogie Suspension System	EN022
Hinkle, Paige	How Sugar Substitutes Affect Amyloid-Beta Plaque Aggregation	CH010
Sinha, Anika	Out of This World!	PA005
Sridhar, Sindura	Investigation of Ciliary Function in Hardikar Syndrome	MH040
Wall-Weaver, LaRissa	How Toxic Is the Water We Drink?	EE011
Wu, Selina	Evaluating The Viability of Electrochemical Reduction of CO2	CH009
Xiao, Jingyi	Analyzing the Impact of the COVID-19 Pandemic on Adolescent Mental Health	MC003

### Wilson Southern Middle School

<u>Student</u>	Title	<u>Exhibit #</u>
Aman, Tyler	Exploring the Strength of 3D Printing Materials	8P024
Burton, Ella	Compost - The Science of Decomposition	8N015
Carpenter, Memphis	Comparing Bone Strength	8N019
Froelich, Elise	Carnations with Color	8P050
Hart, Aiden	Balloon Car Design	8P033
Hennessey, Annabelle	Cats - How They See Color	8N016
Hess, Bridgette	Race to Rotten	6N002
Hess, Grant	Where Do Electrolytes Come From?	8P030
Hothi, Jasnoor	Do Microbes Attend School?	6N003
Johnson, Leanne	The Effect of Different Liquids on Plant Growth	8N018
Lawry, Sara	The Effect of Music on Memory	8N014
Lopez, Sarah	Sodium Level in Various Drinks	8P042
Malave, Anisha	Comparing Sealant Ability of Lip Balm	8P034
Mills, Madison	The Effect of Temperature on Battery Life	8P048
Musser, Brendan	What Effect Does Tire Grip Have on Speed?	8P028
Nagle, Evan	How Watering Techniques Affect Plant Growth	8N028
Nji, Blessing	What Causes Leaves to Change Color?	8N042
Perella, CeCelia	Rock, Paper, Scissors Strategies	6N001
Pierre, Kailla	The Effectiveness of Bleach on Stain Removal	8P027
Poe, Julia	The ZipChair! - Wheelchair Accessible Stairs	7P024
Rodriguez, Emily	Effect of Caffeine on Kidney Stones	8P035
Smith, Abbie	Light Pollution and Flickering Stars	8P032
Snyder, Daniel	What Effect Does Material Have on Sound?	8P029
Vonsander, Matthias	Rubber Band Powered Cars	8P036
Wengerd, Tessa	Aquaponics and Plant Growth	8N017

### **Category Award Judges**

Category Award Judge Mrs. Eleanor (Ellie) Albright Ms. Bethany Ayers Fisher Mr. Mike Balla Mr. Daniel Benjamin Mr. Andrew Bielecki Mr. Matthew Boggs Mr. Brian Boyer Mr. James Brady Dr. Bren Cole Dr. David Comstock Mr. Mark DeMay Mr. John Fangman Mr. Andrew Fetterman Dr. Amy Greene Dr. Vinod Gupta Mr. James Harrison Mrs. Anita Harrison Dr. David Hinkle Ms. Jeanne Johnston Mr. Dan Kacsur Mr. Shane Kennedy Mr. Devon Kline Mr. John Leiby Mr. Charles Lentz Dr. Jerry Levkoff Mr. James Maguire Mr. Michael Marcellus Mr. Christopher Messinger Mr. Jesse Murphy Mr. James Noel Mrs. Nancy O'Leary Mr. Fredrick Odoyo Ondiek Ms. Dina Pisotti Dr. Erin Reagan Ms. Tracy Rice Mr. Chris Rickert Mr. Andrew Riegel Dr. Alina Rodgers Mr. George Saltzman Dr. Nigel Sanders Ms. Kelsey Schwenk

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### FirstEnergy

Muhlenberg School District East Penn Manufacturing Co.

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Muhlenberg High School Smeltzer-Schwab, Dr. Audrey Muhlenberg Middle School Evans, Chris Sacred Heart School Calhoun. Marissa Saint Catharine of Siena School Lavanga, Kathy Saint Ignatius Loyola School Teed, Emma Schuylkill Valley High School Schucker, Dr. Elizabeth The King's Academy Hewston, Robin **Total Experience Learning** at Albright College Sarah Hosler Wilson High School Melograna, Joseph Wilson Southern Middle School Cockrum, Cindy

## Science Fair Participants by Project Junior Division

#### Number Student Name 6th Grade Natural Science 6N001 Perella, CeCelia 6N002 Hess, Bridgette 6N003 Hothi, Jasnoor 6N005 Fabien, Isaiah 6N006 Routledge, TréLisse 6N007 French, Ariadne Gensemer, Edward 6N008 6N009 Wiand, Ethan Wiand, Isaac 6N010 6N011 Rhoads, Malaina 6N012 Metzger, Emma 6N014 Miller, Caden 6N015 Kutzer, Zoey 6N016 Reali, Alyssa 6th Grade Physical Science 6P001 French, Declan 6P002 Cohen, Anderson 6P003 Strine, Kinsley 6P004 Sellars, Cooper 6P005 Ciemiewicz, Connor 6P006 Shaffer, Brooke 6P007 Morales, Lilly 6P008 Giron, Estelianie Stankiewicz, Deziree 6P009 6P010 Balde, Abdoulaye 6P011 Yeung, Tivian 6P012 Zerbe, Andrew 6P013 Yoder, Sebastian 6P014 Snyder, Lily 6P015 McMenamin, Kayla 6P016 Witman, Lucas 6P017 Kindig, Frederick 6P018 Mast, Sophia 6P019 Leija, Carla 6P020 Mast, Norah 6P021 Caruso, Anthony 6P022 Johnson, Ella 6P023 Rundle, Marcus 6P024 Morris, Camryn

#### School

Wilson Southern Middle School Wilson Southern Middle School Wilson Southern Middle School Conrad Weiser Middle School Holy Guardian Angels Conrad Weiser Middle School Holy Guardian Angels The King's Academy The King's Academy Conrad Weiser Middle School Conrad Weiser Middle School LaSalle Academy LaSalle Academy

Conrad Weiser Middle School Holy Guardian Angels Conrad Weiser Middle School Conrad Weiser Middle School Conrad Weiser Middle School Conrad Weiser Middle School The King's Academy Holy Guardian Angels Conrad Weiser Middle School

00005	
6P025	Klitsch, Laura
6P026	Unger, Baron
6P027	Berger, Benjamin
6P028	Christman, Nathan
6P029	Rogers, Teagan
6P030	Bassetti, Ty
6P031	Capretti, Montgomery
6P032	Taimanglo, Evan
6P033	Frutchey, Carson
6P034	Mazurek, Steven
6P035	Snyder, Jacob
7th Grade Natu	iral Science
7N001	Miller, Piper
7N002	Rhyder, Haylee
7N003	Kennedy, Michael
7N004	Rice, Ilina
7N005	Reinard, Juliana
7N006	Rodriguez, Emma
7N007	Meredith, Liam
7N008	Flores, Aydyn
7N009	Fessler, Macey
7N010	Joseph, Elica
7N012	Owsiany, Sophi
7N013	Miller, Tyce
7N014	Misiti, Chiara
7N015	Krick, Alexis
7N016	Stringer, Sullivan
7N017	Freed, Ava
7N018	Langumas, Jasper
7N019	Mills, Keira
7N020	Schuenemann, Riley
7N021	Lanza, Joseph
7N022	Pena, Candida
7N023	Pollock, Cecilia
7N024	Baldwin, Jalia
7N025	Engler, Savanna
7N026	Drake, Sirius
7N027	Oswald, Vaughn
7N028	Hill, Carly
7N029	Motley, Goldie
7N030	Achenbach, Leah
7N031	Zhingre-Kelly, Suannabelle
7N032	Thompson, Giavanna
7N033	Rubert, Elaine
7N035	Laceda, Lia martina
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Conrad Weiser Middle School Conrad Weiser Middle School Conrad Weiser Middle School Conrad Weiser Middle School LaSalle Academy Conrad Weiser Middle School Holy Guardian Angels LaSalle Academy Conrad Weiser Middle School Conrad Weiser Middle School

Conrad Weiser Middle School Conrad Weiser Middle School Conrad Weiser Middle School Conrad Weiser Middle School LaSalle Academy LaSalle Academy Conrad Weiser Middle School Saint Ignatius Loyola School Saint Ignatius Loyola School Saint Ignatius Loyola School Saint Ignatius Loyola School Holy Guardian Angels Saint Ignatius Loyola School Saint Catharine of Siena School Saint Ignatius Loyola School Holy Guardian Angels LaSalle Academy Holy Guardian Angels Holy Guardian Angels Holy Guardian Angels

7N036	Newswanger, Delaney
7N037	Casimir, Jaden
7N038	Masi, Peyton
7N039	Summers, Morgan
7N040	Lall, David
7N041	Polak, Ewelina
7N042	O'Leary, Anika
7N043	Bender, Colin
7N044	Kofsky, Ava
7N045	Brant, Gwyneth
7th Grade Phy	sical Science
7P001	Bruno, Kayleigha
7P002	Dawson, Liam
7P004	Baker, Jackson
7P005	Himmelberger, Evan
7P007	Draper, Kohen
7P008	Schott, Liam
7P009	Nakonecznyj, Nathan
7P011	Reyes Lebron, Alanis
7P012	Pinnell, Hannah
7P014	Lefler, Bryant
7P015	Shesniak, Emmalie
7P017	Skipper, Brayden
7P019	Troutman, Kyra
7P021	Stoy, Kellen
7P024	Poe, Julia
7P025	Roberts, Franki
7P026	Sullivan, Shayla
7P027	Cobos, Yamilee
7P028	Klinger, Norah
7P029	Foreman, Bailey
7P030	Galan, Alivia
7P031	Walton, Alice
7P032	D'Angelo, Joseph
7P033	Lawlor, Caroline
7P034	Tanaka, Kirra
7P035	Mckeone, Jack
7P036	Kozik, Nicholas
7P037	Lin, Selina
7P038	Beltran, Alejandro
7P039	Wisniewski, Sara
7P040	Damon, Jacksen
7P041	Wheeler - Fortner, Nayanna
7P043	Perate, Dominic
7P044	Mendoza, Sierra
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Saint Ignatius Loyola School Saint Ignatius Loyola School Conrad Weiser Middle School

Conrad Weiser Middle School Conrad Weiser Middle School Conrad Weiser Middle School Conrad Weiser Middle School LaSalle Academy Conrad Weiser Middle School Wilson Southern Middle School Saint Ignatius Loyola School Holy Guardian Angels Holy Guardian Angels Saint Catharine of Siena School Saint Ignatius Loyola School Muhlenberg Jr High School

7P045	Colon, Brennox	Saint Ignatius Loyola School
7P046	Hauser, Anthony	Sacred Heart School
7P047	Flynn, Dina	Holy Guardian Angels
7P048	Karwejna, Sarah	LaSalle Academy
7P049	Cartin, Penelope	LaSalle Academy
7P050	Wentzel, Nicholas	Holy Guardian Angels
7P051	Hoke, Madison	LaSalle Academy
7P052	Morrissey, Tessa	LaSalle Academy
7P053	Schearer, Alison	Holy Guardian Angels
7P054	McNear, Madison	LaSalle Academy
7P055	Zellers, Alexandra	Holy Guardian Angels
7P056	Sabatucci, Giancarlo	Holy Guardian Angels
7P057	Gross, Sabrina	Saint Ignatius Loyola School
7P058	Lanza, Joshua	Saint Ignatius Loyola School
7P059	Kline, Alexander	Conrad Weiser Middle School
		Contad weiser Middle School
8th Grade Natu	<u>ural Science</u>	
8N001	Neider, Scarlet	Conrad Weiser Middle School
8N002	Rice, Sawyer	Conrad Weiser Middle School
8N003	Sweigart, Chase	Conrad Weiser Middle School
8N004	Emmel, Olivia	Conrad Weiser Middle School
8N005	Orth, Marly	Conrad Weiser Middle School
8N006	Rohrbach, Andrew	Conrad Weiser Middle School
8N007	Speicher, Gabriel	Conrad Weiser Middle School
8N008	Kauffman, Chase	Conrad Weiser Middle School
8N009	Hendrix, Christian	LaSalle Academy
8N010	Cannon, Abigail	LaSalle Academy
8N011	Burt, Ari	LaSalle Academy
8N012	Musallam, Giavanna	LaSalle Academy
8N013	Ritter, Jack	LaSalle Academy
8N014	Lawry, Sara	Wilson Southern Middle School
8N015	Burton, Ella	Wilson Southern Middle School
8N016	Hennessey, Annabelle	Wilson Southern Middle School
8N017	Wengerd, Tessa	Wilson Southern Middle School
8N018	Johnson, Leanne	Wilson Southern Middle School
8N019	Carpenter, Memphis	Wilson Southern Middle School
8N020	Shaffer, Kaitlyn	Conrad Weiser Middle School
8N021	Mortland, Cambria	Conrad Weiser Middle School
8N022	Santana, Leah	Conrad Weiser Middle School
8N023	Rhoads, Kalina	The King's Academy
8N024	Kratz, Lillian	The King's Academy
8N025	Arcoleo, Linden	The King's Academy
8N026	Wong, Alicia	Saint Ignatius Loyola School
8N028	Nagle, Evan	Wilson Southern Middle School
8N029	Cortes, Peter	Holy Guardian Angels
8N030	Rosario, Ariel	Muhlenberg Jr High School
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8N031	Cirulli-Ramirez, Christopher	Muhlenberg Jr High School
8N032	Vy, Lily	Muhlenberg Jr High School
8N033	Fries, Lydia	LaSalle Academy
8N034	Chopra, Sanaya	Muhlenberg Jr High School
8N035	Smith, Brycen	Muhlenberg Jr High School
8N036	Pflomm, Nora	LaSalle Academy
8N037	Basehoar, Catherine	LaSalle Academy
8N038	Sobota, Alexander	Saint Ignatius Loyola School
8N039	Swavely, Meredith	Holy Guardian Angels
8N040	Wentzel, Owen	Holy Guardian Angels
8N041	Isamoyer, Hailee	Muhlenberg Jr High School
8N042	Nji, Blessing	Wilson Southern Middle School
8N043	Jimenez, Yaell	Saint Ignatius Loyola School
8N044	Abreu, Calista	Sacred Heart School
8N045	Rosenbaum, Declan	Governor Mifflin Middle School
8th Grade Phy		
8P001	Marquez, Florencia	Conrad Weiser Middle School
8P002	Hunt, Miles	Conrad Weiser Middle School
8P003	Feeg, Haden	Conrad Weiser Middle School
8P004	Dobbs, James	Conrad Weiser Middle School
8P005	Martinez, Desirae	Conrad Weiser Middle School
8P006	Smith, Sonja	Conrad Weiser Middle School
8P008	Parham, Devon	Conrad Weiser Middle School
8P009	Robison, Lyla	Conrad Weiser Middle School
8P010	Harting, Mason	Conrad Weiser Middle School
8P012	Lewis, Josephine	Conrad Weiser Middle School
8P013	Santoro, Gabriella	Conrad Weiser Middle School
8P014	Seidel, Jordan	Conrad Weiser Middle School
8P014	Baxter, Elliot	Conrad Weiser Middle School
8P016	Niculcea, Lucas	Conrad Weiser Middle School
	·	Conrad Weiser Middle School
8P017 8P018	Smith, Autumn Rankin, Kaylee	Conrad Weiser Middle School
8P019	Bieber, Bruce	Conrad Weiser Middle School
8P020	Shade, Nora	Conrad Weiser Middle School
8P020	Stoica, Natalie	Conrad Weiser Middle School
		Conrad Weiser Middle School
8P022 8P023	Gelsinger, Sarah Baluta, Kamden	Conrad Weiser Middle School
		Wilson Southern Middle School
8P024	Aman, Tyler	Conrad Weiser Middle School
8P025	Weiler, Michael	
8P027	Pierre, Kailla	Wilson Southern Middle School
8P028	Musser, Brendan	Wilson Southern Middle School
8P029	Snyder, Daniel	Wilson Southern Middle School
8P030	Hess, Grant	Wilson Southern Middle School
8P032	Smith, Abbie	Wilson Southern Middle School
8P033	Hart, Aiden	Wilson Southern Middle School

8P034	Malave, Anisha
8P035	Rodriguez, Emily
8P036	Vonsander, Matthias
8P037	White, Braedyn
8P038	Kohl, Meadow
8P040	Sattazahn, Presley
8P041	Garretson, Sophia
8P042	Lopez, Sarah
8P043	Harting, Lincoln
8P044	Ulrich, Vaughn
8P046	Hitchcock, Abigail
8P047	Herman, Matthew
8P048	Mills, Madison
8P049	Sekel, Dejalyn
8P050	Froelich, Elise
8P051	Zudie, Esperanza
8P052	Plevrakis, Ariana
8P053	Doyne, Camryn
8P054	Torres, Victor
8P055	Burkman, Wyatt
8P056	Knoll, Sebastian
8P057	Bray, Sydney
8P058	Napoli, Adrianna
8P060	Wagner, Peyten
8P061	Coccia, Vincent
8P062	DiStefano, Alexander
8P063	DiStefano, Jackson
8P064	Taveras Franco, Oliver
8P066	Miller, Austin
8P067	Rothermel, Matthew
8P068	Orient, Lillian
8P069	Kroenig, Collin
8P070	Gable, Samuel
8P071	John, Awele
8P072	Buono, Drew
8P073	Reimels, Ella
8P074	Dieter, Morgan
8P075	Roffer, Elliott
8P077	Giesa, Dominic
8P078	Mercado, Olivia
8P079	Cruz, Maya

Wilson Southern Middle School Wilson Southern Middle School Wilson Southern Middle School Conrad Weiser Middle School Conrad Weiser Middle School Conrad Weiser Middle School The King's Academy Wilson Southern Middle School Conrad Weiser Middle School Conrad Weiser Middle School Conrad Weiser Middle School Saint Ignatius Loyola School Wilson Southern Middle School Holy Guardian Angels Wilson Southern Middle School Saint Ignatius Loyola School Saint Ignatius Loyola School Muhlenberg Jr High School Holy Guardian Angels Saint Ignatius Loyola School Conrad Weiser Middle School Holy Guardian Angels Saint Ignatius Loyola School Muhlenberg Jr High School Holy Guardian Angels Muhlenberg Jr High School Muhlenberg Jr High School Muhlenberg Jr High School Conrad Weiser Middle School Holy Guardian Angels LaSalle Academy Holy Guardian Angels LaSalle Academy LaSalle Academy LaSalle Academy Saint Ignatius Loyola School Muhlenberg Jr High School Saint Ignatius Loyola School Saint Ignatius Loyola School Saint Ignatius Loyola School Holy Guardian Angels

## **Senior Division**

#### Number **Student Name**

BS029

Mailloux, Evan

#### School

9th-12th Grades	<u>Botany</u>	
BO001	Lenzi, Priella	Berks Catholic High School
BO002	Machion, Timothy	Berks Catholic High School
BO003	Koncsics, Lydia	The King's Academy
BO004	Meck, Novalynn	The King's Academy
BO006	Martinez, Joel	Governor Mifflin High School
BO007	Vang, Chloe	Governor Mifflin High School
BO008	Facey, David	Governor Mifflin High School
BO009	Sangha, Kuljeet	Governor Mifflin High School
BO010	Lehman, Ryan	Governor Mifflin High School
BO011	Medianick, Anya	Governor Mifflin High School
BO012	Kurtz, Ethan	Governor Mifflin High School
BO013	DiStefano, Amabelle	Muhlenberg High School
BO014	Feick, Karleigh	Governor Mifflin High School
9th-12th Grade	es Behavioral and Social Science	<u>S</u>
BS001	Brant, Dahlia	Conrad Weiser High School
BS002	Krajsa, Parker	Berks Catholic High School
BS003	Martin, Aubrielle	Governor Mifflin High School
BS004	D'Onofrio, Gianna	Governor Mifflin High School
BS005	Alexis, Calvin	Governor Mifflin High School
BS006	Rowe, Abigail	Governor Mifflin High School
BS007	Terrell, Reece	Governor Mifflin High School
BS008	Maldonado, Makayla	Governor Mifflin High School
BS009	Espinal, Eric	Governor Mifflin High School
BS010	Pitruzzella, Giuseppe	Governor Mifflin High School
BS011	Urbina, Gabriella	Governor Mifflin High School
BS012	Spayd, Madelyn	Governor Mifflin High School
BS013	Caron, Camryn	Governor Mifflin High School
BS014	Clemmens, Autumn	Governor Mifflin High School
BS015	Hertzog, Madison	Governor Mifflin High School
BS016	Forrer, Ryan	Governor Mifflin High School
BS017	Radiosky, Lila	Governor Mifflin High School
BS018	Schmidt, Amelia	Governor Mifflin High School
BS019	Ortega, David	Governor Mifflin High School
BS020	Orndorf, Molly	Governor Mifflin High School
BS021	Dietrich, Mackenzie	Governor Mifflin High School
BS022	Shultz, Mason	Governor Mifflin High School
BS023	Cruz, Josiah	Governor Mifflin High School
BS024	Davis, Will	Governor Mifflin High School
BS025	Urbina, Liliana	Governor Mifflin High School
BS026	De Los Santos, Ashley	Muhlenberg High School

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Governor Mifflin High School

BS030

Jones, Kira

9th-12th Grades Chemistry

CH001	Barbera, Prudence
CH003	Cunningham, Audrey
CH004	Do, Jada
CH005	Newswanger, Peyton
CH006	Bookser, Sadie
CH007	Gutierrez, Janiel
CH008	Parada Estrada, Logan
CH009	Wu, Selina
CH010	Hinkle, Paige
CH011	Wagner, Quinn
CH013	Retavisca-Aguirre, Esteban
CH014	Specht, isabella
CH015	Zale, Atticus
CH016	Belinski, Stella
CH017	Shuker, Charles
CH018	Nowakowski, Jadzia
CH019	Eyrich, Lily
CH020	Spell, Christopher
CH021	Peterka, Ivy
CH022	Schrufer, Madison
CH023	Martin, Bridget
CH024	Newton, Jamison
CH025	Morganti, Matthew
CH027	Huston, Libby
CH028	Lapi, Jaymeson
CH029	Neiswender, Kaden

#### 9th-12th Grades Earth and Environment

EE001	Martino, Aleena
EE002	Houser, Joan
EE003	Miller, Finnegan
EE004	Johnson, Rianna
EE005	Burkey, Serena
EE006	Ottinger, Sophia
EE007	Moody, Samuel
EE008	Zamora, Maria
EE009	Brugger, Sofia
EE011	Wall-Weaver, LaRissa
EE012	Donkus, Cole
EE014	Horack, Allie
EE015	Colf, Macie
EE016	Boyer, Mikayla
EE018	Bausher, Noah
EE019	Manzueta, Genesis

Berks Catholic High School Wilson High School Wilson High School Muhlenberg High School Governor Mifflin High School Berks Catholic High School Berks Catholic High School Governor Mifflin High School Conrad Weiser High School

Conrad Weiser High School Muhlenberg High School Conrad Weiser High School Governor Mifflin High School Berks Catholic High School Wilson High School Kutztown High School Conrad Weiser High School Governor Mifflin High School Governor Mifflin High School Governor Mifflin High School Governor Mifflin High School

EE020	Patton, Elizaebth
EE021	Schmehl, Mea
EE022	Kerschner, Kaitlyn
EE023	DeBellis, Logan
EE024	Aponte-Ruiz, Janely
EE025	Angstadt, Sarah
EE026	lordanescu, Gabriel
EE027	Gehris, Jerome
EE028	Turner, Gianna
EE029	Stoica, Robert
EE030	Rodrigeuz, Evan
EE031	Impellizzeri, Grace

#### 9th-12th Grades Engineering

EN001	Maftei, Matthias
EN005	Schnatz, David
EN009	Ramkissoon, Nathan
EN015	King, Charles
EN020	Zhang, Steven
EN022	Ferenchick, William
EN025	Labagh, Robert
EN001	Maftei, Matthias

#### 9th-12th Grades Mathematics and Computers

MC001	Robinson, Brady
MC002	Markwood, David
MC003	Xiao, Jingyi

#### 9th-12th Grades Medicine and Health

MH001	McGarrigle, Justin
MH002	Gahuancela, Dana
MH003	Perlman, Rosie
MH004	Frey, Gabriella
MH005	Sebastian, Emily
MH006	Cirandine, Ilaria
MH007	Mancebo, Heidy
MH008	Hearing, Molly
MH010	Levan, Sierra
MH013	Iraola-Ceely, Alex
MH014	Solalinde, Yareli
MH015	Krick, Ethan
MH016	Topieniak, Reese
MH017	Groh, McKenna
MH018	Pham, Mason
MH019	Dipasquale, Cristiano
MH020	Leconte, Leone
MH021	Abdelkader, Ahmed

Governor Mifflin High School Conrad Weiser High School Governor Mifflin High School Berks Catholic High School

Muhlenberg High School Berks Catholic High School Muhlenberg High School Governor Mifflin High School Fleetwood High School Wilson High School Governor Mifflin High School Muhlenberg High School

Conrad Weiser High School Muhlenberg High School Wilson High School

Conrad Weiser High School Muhlenberg High School Berks Catholic High School The King's Academy Governor Mifflin High School Governor Mifflin High School

MH022	Musket, Marlee
MH023	Rowley, Gracie
MH024	Stanziola, Maria
MH025	Mendez, Saralyn
MH026	Bortz, Jack
MH027	Longenecker, Chesnie
MH028	Kellenberger, Grace
MH029	Stricker, Evelyn
MH030	Lopez, Kayden
MH031	Carroll, Kendall
MH032	Nunez, Alexander
MH033	Moyer, Aidan
MH034	Kim, Andie
MH035	Wartzenluft, Garth
MH036	Schlappich, Kallista
MH037	Klopp, Mason
MH038	Campoverde, Emma
MH039	Swift, Eric
MH040	Sridhar, Sindura

#### 9th-12th Grades Physics and Astronomy

PA001 Aman, Calia PA002 Henly, Dalhendji PA003 Sharer, Matthew PA004 Yoder, Mallory PA005 Sinha, Anika George, Brooklyn PA006 PA007 skipper, caeson PA008 Michalsky, Jamie PA009 Adams, Chase PA010 Patel, Shan PA011 Orth, Dalton PA012 Arnold, Colin PA013 Dreibelbis, Logan PA014 Rey, Konnor PA015 Sanchez-Mariscal, Joshua PA016 Byrne, Patrick PA017 Fichter, Dalton PA018 Ulrich, Samuel Johnson, Adelaide PA019 PA020 Huesgen, Alexandra PA021 Machion, Nikolaus PA022 Rvan, Peter PA023 Hernandez, Adrian PA024 Engleman, Samuel PA025 Devargas, Jaedoeg

Governor Mifflin High School Conrad Weiser High School Governor Mifflin High School Governor Mifflin High School Muhlenberg High School Schuylkill Valley High School Wilson High School

Wilson High School Muhlenberg High School Berks Catholic High School Berks Catholic High School Wilson High School Governor Mifflin High School

PA026	Weyant, Donovan
PA027	Mowery, Kiara
PA028	Chafin, Cole
PA029	Sweigart, Melissa
PA030	Garman, Colten
PA031	Schmaldienst, Sami
PA032	Martin, Cole
PA033	Junikiewicz, Ava
PA034	Nguyen, Hong
PA035	Perez, Jonathan
PA036	Semsel, Gabriel
PA037	Girard, Dylan
PA038	Walton, Madeline
PA039	Thomas, Kyla
PA040	Romanski, Evie
PA041	Hertzog, Bryce
PA042	Morales, Niyah
PA043	Taylor, Ethan
PA044	Wentzler, Joseph
PA045	Drumheller, Micah
PA046	Eckert, Tyler
PA047	Harner, Braxton
PA048	Terreson, Robert
Oth 12th Crades Zaslamy	

#### 9th-12th Grades Zoology

ZO001	Evans, Samson
ZO002	Ferenz, Tyler
ZO003	Baker, Aubrey
ZO004	Good, Nicholas
ZO005	Lash, Kenneth
ZO006	Martin, Hadleigh
ZO007	Bolles, Tessa
ZO008	Strausser, Riley
ZO009	Fredericks - Clemens, Charley
ZO010	Velez, Joshua
ZO011	Kraft, Maya
ZO012	Knoop, Kylie
ZO013	Mulhern, Kaiya
ZO014	Adams, Gabe
ZO015	Huamanlazo, Ede

Governor Mifflin High School The King's Academy Berks Catholic High School Berks Catholic High School Berks Catholic High School Governor Mifflin High School Governor Mifflin High School Governor Mifflin High School Berks Catholic High School Governor Mifflin High School Governor Mifflin High School Governor Mifflin High School Berks Catholic High School Governor Mifflin High School Governor Mifflin High School Berks Catholic High School Muhlenberg High School Governor Mifflin High School Governor Mifflin High School

Muhlenberg High School Daniel Boone High School Conrad Weiser High School Governor Mifflin High School

## SUMMARY OF ENTRIES BY CATEGORY

6N	14
6P	35
7N	43
7P	49
8N	44
8P	70
BO	13
BS	28
CH	26
EE	28
EN	7
MC	3
MH	37
PA	48
ZO	15
Total Entries	460

### PAST AWARD WINNERS

1953	1 - Virgil Ponzoli - Central Catholic - Earth-Space 2 - Joseph Drylewski - Central Catholic - Zoology 3 - Harvey Plowfield, Jr Wyomissing - Physics
1954	1 - Malcolm Eidle - Kutztown
1955	1 - David L. Klemmer - Reading High - Zoology
1956	1 - John Braun - Central Catholic - Chemistry
1957	1 - Raymond Bowman - Reading High - Physics
1958	1 - Kerry Weinhold - Reading High - Physics 2 - Priscilla Hendricks - Governor Mifflin 3 - Dolores A. Napiecek - Central
1959	1 - George F. Post - Central - Zoology 2 - Catharine Gallagher - Mt. St. Michaels 3 - Marguerite Costigan - Kutztown
1960	1 - George F. Post - Central Catholic 2 - Paula Buskey - Central Catholic 3 - Barry W. Ache - Reading High - Botany
1961	1 - Kermit F. Crossland - Central Catholic - Chemistry 2 - Jacob Snyder - Oley Valley - Zoology 3 - Dale Stoltzfus - C.E. Cole
1962	<ol> <li>Bruce D. Pomeroy - Central Catholic - Physics</li> <li>James Berger - Exeter - Zoology</li> <li>Kathleen Bryniaski - Central Catholic</li> </ol>
1963	<ol> <li>Barbara M. Descoteaux - Mt. St. Michaels - Bio Chemistry</li> <li>John Stofko - Central Catholic - Physics</li> <li>Janine Phillips - Schuylkill Valley - Physical Science</li> </ol>
1964	1 - Ronald Polinski - Central Catholic - Applied Science 2 - Suzanne Garszcynski - Central Catholic - Chemistry 3 - Janine Phillips - Schuylkill Valley - Physical Science
1965	<ol> <li>Ronald J. Polinski - Central Catholic - Grand Champ Boy - Zoology</li> <li>Cheryl L. Leddy - Central Catholic - Grand Champ Girl - Chemistry</li> <li>Daniel M. Webber, Jr Central Catholic - Physics</li> <li>Nancy Noone - Central Catholic - Applied Science</li> </ol>
1966	<ol> <li>James Simpson - Central Catholic - Zoology</li> <li>Antoinette Tyrrell - Central Catholic - Physics</li> <li>Daniel Weber - Central Catholic - Physics</li> <li>Suzanne Radka - Central Catholic - Applied Science</li> </ol>
1967	<ol> <li>Bradley Auge - Governor Mifflin - Zoology</li> <li>Suzanne Radka - Central Catholic - Applied Science</li> <li>David L. Wagner - Holy Name - Physics</li> <li>Kathleen Rose - Central Catholic - Physics</li> </ol>

1968	1 - Bradley Auge - Governor Mifflin - Med./Health 2 - Randall Heffelfinger - Oley - Chemistry 3 - Maryann Zanis - Holy Name - Zoology
1969	1 - Richard Harris - Central Catholic - Med/Health 2 - Maryann Zanis - Holy Name - Zoology 3 - Steven Peter - Boyertown - Earth-Space
1970	1 - Leonard Smolinski - Central Catholic - Physics 2 - Patricia Culp - Holy Name - Zoology 3 - Richard Harris - Central Catholic - Med/Health
1971	<ol> <li>R. Richard Harris - Central Catholic - Med./Health</li> <li>Jeffrey Green - Reading High - Chemistry</li> <li>Robert Skrocki - Central Catholic - Earth-Space</li> </ol>
1972	1 - Maria Porcaro - Central Catholic - Med/Health 2 - David Embree - Muhlenberg - Physics 3 - Anton Kapp - Holy Name - Botany
1973	1 - Anton Kapp - Holy Name - Botany 2 - Thomas P. Hafer - Central Catholic - Med/Health 3 - Dennis Lorah - Boyertown - Chemistry
1974	1 - Paul Embree - Muhlenberg - Physics 2 - Dennis P. Lorah - Boyertown - Chemistry 3 - Richard H. Ebright - Muhlenberg - Zoology
1975	1 - Richard Ebright - Muhlenberg - Zoology 2 - Paul Embree - Muhlenberg - Physics 3 - Thomas Smithgall - Holy Name - Med/Health
1976	1 - Richard A. Ebright - Muhlenberg - Zoology 2 - Paul M. Embree - Muhlenberg - Physics
1977	1 - Richard H. Ebright - Muhlenberg - Zoology 2 - Paul Embree - Muhlenberg - Physics 3 - Brad S. Rachman - Muhlenberg - Botany
1978	1 - James K. McCarthy - Muhlenberg - Earth-Space 2 - David J. Eshelman - Exeter - Med/Health 3 - Raffaella Torchia - Holy Name - Botany
1979	<ol> <li>1 - Kirk Mathews - Central Catholic - Physics</li> <li>2 - David Eschelman - Exeter - Chemistry</li> <li>3 - Gregory Henry - Reading High - Zoology</li> </ol>
1980	1 - James Linton - Reading High - Botany 2 - Kirk Mathews - Central Catholic - Physics 3 - Michael Swank - Reading High - Zoology
1981	1 - Andrew Fraley - Wilson - Math & Computers 2 - Helen Rozzi - Central Catholic - Chemistry 3 - Michael Swenk - Reading High - Botany

1982	<ol> <li>Christopher L. Fraley - Wilson - Math &amp; Computers</li> <li>Stephen L. Rozzi - Central Catholic - Physics</li> <li>Timothy R. Valentino - Reading High - Chemistry</li> </ol>
1983	1 - Christopher Fraley - Wilson - Math & Computers 2 - Christopher Russo - Central Catholic - Physics 3 - Jennifer Emkey - Holy Name - Med./Health
1984	1 - Jennifer Emkey - Holy Name - Med/Health 2 - Christopher Fraley - Wilson - Math & Computers 3 - Michele Swope - Holy Name - Botany
1985	1 - Michele Swope - Holy Name - Botany 2 - Christopher Fraley - Wilson - Math & Computers 3 - Heather Shimp - Holy Name - Earth-Space
1986	1 - David Haile - Holy Name - Zoology 2 - Steven Litvin - Wilson - Math & Computers 3 - Michele Swope - Holy Name - Physics
1987	1 - Steven Litvin - Wilson - Physics 2 - David Haile - Holy Name - Zoology 3 - Melissa Wall - Muhlenberg - Chemistry
1988	1 - Steven Litvin - Wilson - Physics 2 - Sharon Pilarski - Holy Name - Med/Health 3 - Anne Wert - Daniel Boone - Earth-Space
1989	1 - Sharon Pilarski - Holy Name - Med./Health 2 - Michael Thompson - Central Catholic - Zoology 3 - Daniel Cherrie - Oley - Physics
1990	1 - Lawrence Moore - Governor Mifflin - Zoology 2 - Stephen Kelley - Governor Mifflin - Physics 3 - Theresa Helms - Holy Name - Med/Health
1991	1 - George Gumbrell - Boyertown - Physics 2 - Lawrence Moore - Governor Mifflin - Zoology 3 - Peter A. Daley - Wilson - Physics
1992	1 - Michael Rhoades - Oley 2 - Peter Daley - Wilson 3 - Stephen Kelley - Governor Mifflin
1993	1 - Michael Rhoads - Oley 2 - Peter Daley - Wilson 3 - Gregory Emkey - Holy Name
1994	1 - Gregory Emkey - Holy Name 2 - Derek Robinson - Wilson 3 - Nicholas Warischalk - Reading Central Catholic
1995	1 - Gerry Lee - Wilson 2 - Joshua Himmelberger - Hamburg 3 - Stephen Emkey - Holy Name

1996	1 - Joshua Himmelberger - Hamburg 2 - Stephen Emkey - Holy Name 3 - Michael Nieman - Oley Valley
1997	1 - Brett DePoister - Reading Central Catholic 2 - Joshua Himmelberger - Hamburg 3 - Stephen Emkey - Holy Name
1998	1 - Brett DePoister - Reading Central Catholic 2 - Jesse Belanger - Oley Valley 3 - Kristina Sanford - Wilson
1999	1 - Jeff Payne - Wilson 2 - Kyle Usbeck - Wilson 3 - Stacey Blanck - Exeter
2000	1 - Kyle Usbeck - Wilson 2 - Jeff Payne - Wilson 3 - Dan Vroman - Exeter
2001	1 - Katie Sanford - Wilson 2 - Kyle Usbeck - Wilson 3 - Bradford James Brizek - Conrad Weiser
2002	1 - Jeffrey Pawlikowski - Conrad Weiser 2 - Katie Sanford - Wilson 3 - Nickolas Timpe - Home School
2003	1 - Denise Gardner - Conrad Weiser 2 - Kathryn Sanford - Wilson 3 - Nickolas Timpe - Home School
2004	1 - Thomas Trudel - Muhlenberg 2 - Kathryn Sanford - Wilson 3 - Peter Littlefield - Oley Valley
2005	1 - Hilary Peterson - Conrad Weiser 2 - Thomas Trudel - Muhlenberg 3 - Matthew Gardner - Conrad Weiser
2006	1 - Kimberly Larrabee - Reading 2 - Alex Youst - Conrad Weiser 3 - Jon Rittle - Conrad Weiser
2007	1 - Alex Quaintance - Muhlenberg 2 - Christopher Zimmerman - Muhlenberg 3 - Nicholas Showalter - Conrad Weiser
2008	1 – Christopher Zimmerman – Muhlenberg 2 – Rachel Bigos – Holy Name 3 – Ryan Moraski – Conrad Weiser
2009	1 – Seth Fisher – The King's Academy 2 – Vincent Zampelli – Conrad Weiser 3 – John Keller – The King's Academy

2010	1 – John Keller – The King's Academy 2 – Gregory Scanlon – Holy Name HS 3 – Miranda Haslam – The King's Academy
2011	1 – Matthew Weidner – Brandywine HS 2 – Miranda Haslam – The King's Academy 3 – Aubrie Potteiger – Muhlenberg Middle
2012	1 – Matthew Weidner – Brandywine HS 2 – Andrew Przyjemski – Governor Mifflin HS 3 – Grant Baver – Tulpehocken HS
2013	1 – StepHanie Keller – Conrad Weiser HS 2 – Megan Campbell – Conrad Weiser HS 3 – Catharine Scoboria – Berks Catholic HS
2014	1 – Andrew Przyjemski – Governor Mifflin HS 2 - Matthew Weidner – Brandywine HS 3 - Catharine Scoboria – Berks Catholic HS
2015	1 - Andrew Przyjemski – Governor Mifflin HS 2 – Marlin Thomas – Governor Mifflin HS 3 – Kayla Petersen - The King's Academy
2016	1 - Alexa Schneck – Conrad Weiser HS 2 - Joseph Gresoi – Conrad Weiser HS 3 – Boatram Nguyen – Berks Catholic HS
2017	1 – Lacie Pichler – Conrad Weiser HS 2 – Baotram Nguyen – Berks Catholic HS 3 – Rosalie Brunner - Conrad Weiser HS
2018	1 – Rini Kaneria - Conrad Weiser HS 2 – Nikita Patel - Conrad Weiser HS 3 – Madison Bright - Conrad Weiser HS
2019	1 – Joseph Walker – Berks Catholic HS 2 – Abigail Atkins – Berks Catholic HS 3 – Ellie Chibirka - Conrad Weiser HS
2020	1 – Krishna Nayek – Wilson HS 2 – Selia Werth – Conrad Weiser HS 3 – Holden Rice - Conrad Weiser HS
2021	1 – Holden Rice – Conrad Weiser HS 2 – Erin Horack – Conrad Weiser HS 3 – Brady Moyer - Conrad Weiser HS
2022	1 – SriGouri Oruganty – Muhlenberg HS 2 – Lindsey Preston – Conrad Weiser HS 3 – Holden Rice – Conrad Weiser HS
2023	1 – Paige Hinkle – Wilson HS 2 – Kamella Gechter – Conrad Weiser HS 3 – Matthew Ferenz – Daniel Boone HS

