



## Schedule of Events

### Thursday, March 9, 2017

- 12:00 PM – 4:30 PM Participants set up project displays
- 4:30 PM – 5:00 PM Judges’ Preview
- 5:00 PM – 5:30 PM Judges Orientation and Dinner
- 5:30 PM – 6:00 PM Category Judges Meet to Discuss Strategy for Judging posters
- 6:00 PM – 8:00 PM Judging (Students at Displays)

### Friday, March 10, 2017

- 9:00 AM – 4:00 PM Recreation, Fitness, and Wellness Center Open for Public Viewing of Projects
- 9:00 AM – 4:00 PM Public Exhibition/Field Trips to the Fair
- 4:00 PM – 6:00 PM Participants and sponsoring teachers are asked to remove projects during this time. **Any projects remaining in the RFWC after 6:00PM will be discarded.**
- 6:30 PM – 7:30 PM Awards Ceremony—Mitchell Auditorium in the Health Professions Building

## 2017 OFFICIALS

### Fair Director

**Allison Grabert, Director**

*Director*

*SwISTEM Resource Center*

*University of Southern Indiana*

### Assistant Fair Director

**Paige Walling**

*SwISTEM Services Supervisor*

*SwISTEM Resource Center*

*University of Southern Indiana*

### Fair Set-Up

**Phyllis Oeth & Rhonda Woolsey**

*Conference & Meeting Planning*

*University of Southern Indiana*

### Chief Judge

**Mark Krahling, Chairman**

*Assistant Dean*

*Science, Engineering and Education*

*University of Southern Indiana*

### Special Exhibit Coordinator

**Dave Ellert**

*Coordinator of Engineering\_Outreach*

*SwISTEM Resource Center*

*University of Southern Indiana*

### Field Trip Coordinator

**Doris Mohr**

*Coordinator of Mathematics Outreach*

*SwISTEM Resource Center*

*University of Southern Indiana*

## Special Thanks to the Fair Sponsors and Contributors

The Tri-State Science and Engineering Fair would not be possible without the support of area individuals, businesses, foundations and schools. Special thanks to every individual listed in this program, including the students who have worked so hard to bring their projects to this fair.

Many support Tri-State Science and Engineering Fair financially while others volunteer time and services. The Tri-State Science and Engineering Fair would not be successful without each contribution. On behalf of all the students in this competition ***"Thank you!"***

We are always looking for ideas to enhance the science education experiences of area children. If you or your organization would like to help increase awareness and interest in STEM careers for a new generation of young scientists, please contact Allison Grabert (812-228-5019; agrabert@usi.edu), Director, Tri-State Science and Engineering Fair, 8600 University Boulevard, Evansville, IN 47712. Your innovative ideas and involvement are encouraged.

## Sponsors

Special thanks to our sponsors for providing major financial contributions and services to assure a well-organized Tri-State Science and Engineering Fair. Their generous support demonstrates a strong commitment to education and the future of our children and communities.



## **Awards**

### **CATEGORY AWARDS**

Each category within the Senior and Junior Divisions will have the following medallions awarded:

- First Place Award – Gold Medallion
- Second Place Award – Silver Medallion
- Third Place Award – Bronze Medallion

### **SENIOR DIVISION GRAND AWARDS AND HONORABLE MENTIONS**

Three Senior Division Grand Award winners will receive trophies along with an iPad Air 2.

Seven Senior Division honorable mention award winners will receive trophies and \$100.00.

The three Senior Division Grand Award winners and the seven Senior Division honorable mention award winners, along with their teacher or sponsor, are invited to participate in the Hoosier State Science and Engineering Fair. These ten students will represent the Tri-State Science and Engineering Fair in a competitive state judging event with additional awards and prizes. The Hoosier State Science and Engineering Fair, sponsored by the Science Education Foundation of Indiana (SEFI), will be held on April 1, 2017 at IUPUI in Indianapolis, Indiana.

In addition, SEFI sponsors a Hoosier Delegation to participate in the International Science and Engineering Fair (ISEF) to be held on May 14-19, 2017 in Los Angeles, CA. The top ten Senior Division winners (grand award winners and honorable mention winners) have an opportunity to compete for Hoosier Delegation positions at the Hoosier Science and Engineering Fair. Travel and housing for all ISEF participants included in the Hoosier Delegation are provided by SEFI.

Up to three (3) Senior Division students in the 12<sup>th</sup> grade will also receive one-year, non-renewable \$1500 scholarships to major in a science discipline, mathematics, engineering, or exercise science at the University of Southern Indiana.

### **JUNIOR GRAND AWARDS AND HONORABLE MENTIONS**

Three Junior Grand Award winners will receive a trophy along with an iPad Mini 3.

Five Junior Division honorable mention award winners will receive trophies and \$50.00.

The three Junior Division Grand Award winners and the five Junior Division honorable mention award winners, along with their teacher or sponsor, are invited to participate in the Hoosier State Science and Engineering Fair. These ten students will represent the Tri-State Science and Engineering Fair in a competitive state judging event with additional awards and prizes. The Hoosier State Science and Engineering Fair, sponsored by the Science Education Foundation of Indiana (SEFI), will be held on April 1, 2017 at IUPUI in Indianapolis, Indiana.

## **ELEMENTARY GRAND AWARD WINNERS**

Two Elementary Grand Award winners will receive a trophy along with an iPod Touch 32GB.

The two Elementary Division Grand Award winners, along with their teacher or sponsor, are invited to participate in the Hoosier State Science and Engineering Fair. These two students will represent the Tri-State Science and Engineering Fair in a competitive state judging event with additional awards and prizes. The Hoosier State Science and Engineering Fair, sponsored by the Science Education Foundation of Indiana (SEFI), will be held on April 1, 2017 at IUPUI in Indianapolis, Indiana.

## **ALCOA FOUNDATION EXCELLENCE IN TEACHING AWARD**

Teachers and adult sponsors of those projects selected for Grand Awards or Honorable Mention Grand Awards will receive a plaque and a cash award of \$50.

## **National Awards and Recognition Contributors**

### **American Meteorological Society**

*Two Certificates of Merit for Excellence in Atmospheric or Related Science Exhibit*

### **American Psychological Association**

*Certificate of Merit for Outstanding Research in Psychological Science*

### **American Society of Materials Education Foundation**

*Certificate of Merit for Most Outstanding Exhibit in Materials Science*

### **Association for Women Geoscientists**

*Certificate of Merit for Geoscience Excellence*

### **ASU Walton Sustainability Solutions Initiatives**

*Two Certificates of Merit for Intent to Solve a Complex Problem that Involves Social Justice,  
Environmental and Economic Prosperity*

### **Biophysical Society**

*Certificate and \$100 Award for Best Biophysics-Related Project*

### **Broadcom MASTERS**

*Certificate of Merit of Outstanding Performance and Nomination to Compete as a BROADCOM Master*

### **I-SWEEP**

*One Award Packet for a Project that Displays Outstanding Work in the Theme of Environmental  
Sustainability and Innovation*

### **Intel Education**

*Intel Excellence in Computer Science Award Certificate of Merit and Monetary Award*

### **Mu Alpha Theta**

*Mu Alpha Theta Award Certificate of Merit for a challenging, original, thorough, and creative investigation of a problem involving mathematics*

### **National Aeronautics and Space Administration**

*Certificate of Merit for Project Offering the Greatest Insight into Earth's Interconnected Systems*

### **National Oceanic and Atmospheric Administration**

*Taking the Pulse of the Planet Award Certificate of Merit and Medallion*

### **Office of Naval Research (United States Navy & Marine Corps)**

*Four Naval Science Junior Division Award Certificates of Merit and Three \$50.00 Senior Division Awards*

### **Ricoh Americas Corporation**

*Ricoh Sustainable Development Award Certificate*

### **Society for In Vitro Biology**

*Certificate of Merit for Ability and Creativity in In Vitro Biology for 11<sup>th</sup> Grade Students*

### **United States Air Force**

*Certificate of Merit for Four Outstanding Senior Division Science and Engineering Fair Projects that offer Air Force Applicability*

### **United States Metric Association**

*Certificate of Merit for the Best Use of the International System of Units in a Science Fair Project*

### **Water Environment Federation**

*Three Stockholm Junior Water Prize Certificates of Merit & Possible Nominations to Enter State Competition*

### **Yale Science and Engineering Association**

*Certificate of Merit for Most Outstanding 11<sup>th</sup> Grade Exhibit in Computer Science, Engineering, Physics or Chemistry*

### **Local Awards and Recognition Contributors**

#### **American Chemical Society Indiana/Kentucky Border Section**

*\$175 Award for Best Senior Project & Certificate of Merit*

*\$75 Award for Best Junior Project & Certificate of Merit*

**Cindy Deloney-Marino and Anthony Marino for the American Society for  
Microbiology (ASM)**

*\$25 Award for Best Junior Microbiology Project & Certificate of Merit*

*\$25 Award for Best Senior Microbiology Project & Certificate of Merit*

**Dr. and Mrs. Jonathan S. Lowery**

*\$50 Award for Best Senior Project in Biochemistry and Chemistry & Certificate of Merit*

*\$50 Award for Best Junior Project in Biochemistry and Chemistry & Certificate of Merit*

**Dr. Kenneth and Nancy Parker**

**Kenneth E. Braun, DDS, Memorial Award**

*\$150 Award for Best Senior Project in Animal Science & Certificate of Merit*

*\$100 Award for Best Junior Project in Animal Science & Certificate of Merit*

**Mesker Park Zoo and Botanic Gardens**

*Two Behind-the-Scenes Zoo Tours for Best Junior Division Project in Animal Sciences or Plant Sciences*

*Two Behind-the-Scenes Zoo Tours for Best Senior Division Project in Animal Sciences or Plant Sciences*

**Purdue University School of Agriculture**

*\$50 Award for Best Senior Project in Food, Agriculture, or Natural Resources & Certificate of Merit*

*Certificate of Merit for Best Junior Project in Food, Agriculture, or Natural Resources*

*Certificate of Merit for Best Elementary Project in Food, Agriculture, or Natural Resources*

**University of Evansville**

*Scholarship for One-Half of Registration Cost to the 2017 Options for Middle School Girls & Certificate of Merit*

*Scholarship for One-Half of Registration Cost to the 2017 Options for Middle School Boys & Certificate of Merit*

*\*Options is a residential (for girls) or day-camp (for boys) learning experience for girls and boys interested in careers in engineering and computer science.*

**University of Southern Indiana College Achievement Program**

*\$50 Award for Best Senior Behavioral Science Project & Certificate of Merit*

**University of Southern Indiana GO STEM!**

*Two Scholarships to the 2017 GO STEM! Summer Camp for Girls & Certificate of Merit*

*\*GO STEM! is a five-day residential learning experience for high school girls interested in STEM careers.*

**University of Southern Indiana Pott College of Science, Education, and  
Engineering**

*Up to Three One Year, Non-Renewable \$1500 Scholarship for Students Majoring in Science, Engineering, Math, or Kinesiology at the University of Southern Indiana.*

## Volunteer Judges\*

*Special thanks to our generous volunteer judges for sharing their time and expertise with the Tri-State Science and Engineering Fair exhibitors!*

Mr. Juzar Ahmed  
Mrs. Kathy Allen  
Dr. James Bandoli  
Mrs. Lisa Bartley  
Mr. Matthew Brindle  
Miss Amanda Brown  
Mrs. Amanda Cannon  
Mr. Dakota Carnahan  
Mr. Keith Carter  
Ms. Laura Chamness  
Dr. Alex Champagne  
Ms. Jessica Coleman  
Dr. Tori Colson  
Dr. Cindy Deloney-Marino  
Dr. Brandon Field  
Zachary Fuller  
Miss Ashley Gillard  
Mr. Steve Glueckert  
Ms. Savannah Goebel  
Mr. Christopher Griffin  
Mr. Bill Groves  
Dr. Kerry Hall  
Miss Madison Hays  
Dr. Priya Hewavitharanage  
Dr. Rick Hudson

Dr. Darlene Ingram  
Ms. Kathleen Irwin  
Miss Kiera Jolly  
Mr. Roshan Kaphle  
Mrs. Jennifer Kissel  
Dr. Marthinus Koen  
Dr. Mark Krahlung  
Dr. Paul Kuban  
Miss Cristina Laughlin  
Mr. Ryan Loehrlein  
Ms. Leisa Lowrey  
Dr. Jonathan Lowrey  
Mr. Mitch Luman  
Dr. Anton Maria  
Miss Holli Melton  
Dr. Matthew Merlo  
Ms. Regan Milner  
Mr. Amos Morris  
Mr. Benjamin Nathan  
Mr. Colin Neeley  
Mrs. Amy Pierce  
Mr. Jeffrey Polak  
Mr. Jim Price  
Dr. Erin Reynolds  
Mr. Ryan Richardson  
Mr. Bernard Riedford  
Mrs. Heather Schmuck

Ms. Samantha Sellers  
Mrs. Robin Sermersheim  
Dr. Jeff Seyler  
Dr. Rob Shelby  
Mr. David Shrimpton  
Dr. Navpreet Singh  
Dr. Michael Slade  
Dr. Kelly Sparks  
Dr. Rebecca Sparks-Thissen  
Miss Grace Stone  
Mr. Scott Taylor  
Ms. Lori Threlkeld  
Miss Anna Todd  
Dr. Mary Tucker  
Miss Alexis Walser  
Dr. Kelly Walsh  
Dr. Alyssa Weatherholt  
Dr. Uditha Wijesuriya  
Mr. Nicholas Williams  
Mr. Austin Wilson  
Dr. Bryan Woosley  
Ms. Megan Wright  
Ms. Rachel Wright  
Ms. Carrie Wright  
Dr. Steven Wu

\*Judges registered at time of print.

## Participating Teachers/Adult Sponsors

*Special thanks to tri-state educators and parents  
for serving as mentors to area students.*

Rachael Adams	South Middle School, Henderson, KY
Cassie Austin	South Middle School, Henderson, KY
Terry Bennett	North Middle School, Henderson, KY
Sherry Blosser	North Middle School, Henderson, KY
Jamie Boeglin	North Middle School, Henderson, KY
Keely Burkhart	Marrs Elementary School, Mount Vernon, IN
Stacy Burkhart	Helfrich Park Middle School, Evansville, IN
Michael Cantrell	South Middle School, Henderson, KY
Patrick Carter	New Tech Institute, Evansville, IN
Valerie Cissna	Thompkins Middle School, Evansville, IN
Ashlee Deal	Helfrich Park Middle School, Evansville, IN
Radhika Dhawan	Signature School Inc, Evansville, IN
Mindy Dillow	Helfrich Park Middle School, Evansville, IN
Ed Fancher	Tri-State Region Home Schools
Chris Fifer	North Middle School, Henderson, KY
Donna Folz	St Philip School, Mount Vernon, IN
Elizabeth Forche	Thompkins Middle School, Evansville, IN
Carrie Henry	South Middle School, Henderson, KY
Rebecca Humm	Helfrich Park Middle School, Evansville, IN
alex isaacs	Heritage Hills Middle School, Lincoln City, IN
Jennifer Jenkins	Tri-State Region Home Schools
Douglas Johnson	New Tech Institute, Evansville, IN
Amy Kehler	Castle South Middle School, Newburgh, IN
Sara Killebrew	Castle North Middle School, Newburgh, IN
Natalie Macaulay	North Posey Sr High School, Poseyville, IN
Angela Marksberry	North Middle School, Henderson, KY
Katie Meyer	Castle South Middle School, Newburgh, IN
Paul Perry	Castle North Middle School, Newburgh, IN
Elisa Peters	Heritage Hills High School, Lincoln City, IN
Jennifer Pritchett	South Middle School, Henderson, KY
Debi Quade	Jasper Middle School, Jasper, IN
Kerry Sensenbrenner	Castle North Middle School, Newburgh, IN
Lata Shukla	Tri-State Region Home Schools
Brenda Spurlock	Reo Education Center, Rockport, IN
Pamela Swader	Heritage Hills Middle School, Lincoln City, IN
Tim Teel	North Elementary School (Posey County), Poseyville, IN
Georgina Wagoner	Academy for Innovative Studies, Evansville, IN
Robbie Waites	Mater Dei High School, Evansville, IN
Paige Walling	West Terrace Elementary School, Evansville, IN
Nora Walsh	Francis Joseph Reitz High School, Evansville, IN
Josh Watjen	Castle North Middle School, Newburgh, IN
Josh Wetzel	Heritage Hills Middle School, Lincoln City, IN
Amy Whetstone	Evansville Day School, Evansville, IN
Karen Wiseman	Plaza Park Middle School, Evansville, IN
Megan Wright	Helfrich Park Middle School, Evansville, IN



## SENIOR DIVISION

PLEASE NOTE: Student Names and Project Titles are presented in the program as submitted by the students on their online registration forms.

### AS Senior Division – Animal Sciences

AS201	Tim Burklow	<i>Why Can't Geckos Stick to? Future of Public Safety</i>
AS202	Carson Pont	<i>Dimples on an air plane wing</i>
AS203	Kendra Schorr	<i>Can Fruit Flies Transmit Bacterial Diseases to Fruit?</i>
AS204	Jordyn Miller	<i>The Effects of Temperature on Planarian Regeneration</i>

### CH Senior Division –Chemistry

CH201	Thomas DiRienzo	<i>Calcium and How it Reacts to Different Liquids</i>
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### EN Senior Division – Engineering

EN201	Nicholas Carter	<i>Amazon Alexa on Raspberry Pi</i>
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### ES Senior Division – Earth and Environmental Sciences

ES201	Ankush Dhawan	<i>Graphene Oxide: A Novel Material for Water Filtration</i>
ES202	Mackenzie Hunt	<i>A.P.P.L.E</i>
ES203	Vidit Patel	<i>HOJO saves Mojo</i>
ES204	Stephen Barnett	<i>Meat Decomposition</i>

### MA Senior Division –Mathematics

MA201	Ethan Shopmeyer	<i>A Winning Formula</i>
MA202	Chris Basham	<i>Die! Mega Rayquaza!</i>

### MB Senior Division – Microbiology, Molecular, Cellular Biology

MB201	Jade Hatcher	<i>Bacteria Growth in Relation to Make-Up</i>
MB202	Emma Buechlein & Claire Lange	<i>The Influence of Artificial Sweeteners on Bacterial Metabolism</i>

### ME Senior Division – Medicine and Health Sciences

ME201	Max Edwards	<i>Let's Get Physical</i>
ME202	Lindsey Koester	<i>Can Unhealthy Teenage Choices Yield a Desirable Body Mass Index Yet Detrimental Life Habits?</i>
ME203	Hannah Voegel	<i>Treating Yeast Infections: Natural Remedies vs. Medication</i>
ME204	Ashley Rexing	<i>Effects of Popular Sodas on Heart Rate</i>
ME205	Payton Latham	<i>Effectiveness of Face Wash</i>
ME206	Brooklyn Lee	<i>Effects of Monosodium Glutamate on the Metabolic Rates of Catalase</i>
ME207	Yasmeen Garrett	<i>Germs are not Divine</i>
ME208	Tysia Buchanan	<i>A Parallel Comparison of Cocaine to Other Non-Controlled Addictive Substances</i>

### PA Senior Division – Physics and Astronomy

PA201	Elijah Guess, Maddox Williams & Tyler Kneer	<i>Blocking Wi-Fi and Radiation</i>
PA202	Corrie Burroughs	<i>Diffraction of Light Based on Ball Size</i>
PA203	Ny'Kia Cheaney	<i>Rainbows: Magic or Science?</i>

### **PC Senior Division – Energy: Physical and Chemical**

PC201	Mason Havener	<i>The Shocking Truth</i>
PC202	Kaelie Waggoner	<i>Refraction Action</i>
PC203	Akshaj Mishra	<i>Effect of non-ionizing radio frequency (RF) electromagnetic (EMF) emissions from wireless communication devices on life and ways to combat its threats</i>

### **RC Senior Division – Robotics, Computers, and Systems Software**

RC201	Kaelin Holm	<i>Raspberry Pi Security System</i>
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### **SS Senior Division – Behavioral and Social Sciences**

SS201	Audrey Walters	<i>Breaking Down the Placebo Effect</i>
SS202	Valeska Hubert	<i>Learning Styles</i>
SS203	Eli Fenwick	<i>Too Hot to Handle?</i>
SS204	Thomas Gismondi	<i>Major or Minor: The Key to Success</i>
SS205	Jewell Gourley	<i>The Electra and Oedipus Complexes</i>
SS206	Ryan Garcia	<i>How do the Sexes React Differently to Text Messages</i>
SS207	Rachel Winner	<i>A study of the difference in attention between high school students when using vs. not using cellular devices</i>
SS208	Nicholas Yeager	<i>Positive vs. Negative Reinforcement</i>

## **JUNIOR DIVISION**

*PLEASE NOTE: Student Names and Project Titles are presented in the program as submitted by the students on their online registration forms.*

### **AS Junior Division – Animal Sciences**

AS101	Grace Phillips & Jasmine Hertel	<i>How does Blubber Protect Animals in a Cold Water Environment?</i>
AS102	Ilana Hall & Kayden Walker	<i>Fishy Findings</i>
AS103	Shemijah Miles, Delicia Drain, & Allison Black	<i>Colorful Food</i>
AS104	Paige Bean	<i>It's About to Get Slippery</i>
AS105	Lila Pfettscher	<i>Left paw vs Right paw</i>
AS106	Hannah Herron	<i>Chicken Feed</i>
AS107	Daniel Gardner	<i>Do dogs understand English or are they just responding to a human's tone of voice?</i>
AS108	Ava Floyd	<i>Love It or Hate It</i>
AS109	Anna Trotter	<i>Left or Right pawed?</i>
AS110	Ayden Johnston	<i>Smart Doggies</i>
AS111	Anna Schmitt	<i>Can African Cichlids do Tricks?</i>
AS112	Livia Land	<i>What's Behind Those Puppy Dog Eyes</i>
AS116	Ava Herren	<i>How does the hand dominance of cats compare to humans?</i>

## **CH Junior Division – Chemistry**

CH101	Benjamin Kennedy & Noah Albin	<i>Fizz, Fizz, Fizz</i>
CH102	Shelby Skelton & Ella Schnieders	<i>Color Exploding Milk</i>
CH103	Kathryn Tenbarge & Angelina Evans	<i>Iron vs. Acid: The Fight Begins</i>
CH104	Madeline Berger & Luke Schweickart	<i>Wipe Out!</i>
CH105	Sydney Madison & Macyn Happe	<i>Dye Intensity</i>
CH106	Ashlyn Devillez	<i>Cleaning Coins</i>
CH107	Evan Patterson & Kyle Holladay	<i>Evaporation</i>
CH108	Grace McReynolds & Macy Kyle	<i>Slime</i>
CH109	Lily Nguyen & Kailynn Powell	<i>Growing Rock Candy Crystals</i>
CH110	Gabby Eagleson & Libby Baumberger	<i>Color Last Or Nah?</i>
CH111	Reece Mills	<i>Which Soda Fizzes More?</i>
CH112	Trey Owen	<i>Shiny Pennies</i>
CH113	Abbie Roberson	<i>Candy Chromotography</i>
CH114	Jake Rideout	<i>Bubble Battles</i>
CH115	Emmi Kirtley	<i>Make it or Break it</i>
CH116	Maddie McCormic	<i>Don't Forget the Sprinkles</i>
CH117	Kendal Hargrove	<i>Which Soda has the Most Sugar?</i>
CH118	Hannah Martin	<i>Salt and Water</i>
CH119	Katelynn Vazquez-Harris	<i>Milk vs Redbull</i>
CH120	Dylan Roman	<i>Frost Off</i>
CH121	Peyton Shoultz	<i>Got Gas</i>
CH122	Bailee Weber	<i>What fabric makes the brightest boldest tie dye?</i>
CH123	Dru Meadows	<i>How to grow the best and largest crystals.</i>
CH124	Noah Martin	<i>Stacking Liquids</i>
CH125	Kayla Morlan	<i>The Perfect Chocolate Chip Cookie</i>
CH126	Keira Stofleth	<i>Bath Bombs</i>
CH127	Shania Sharma	<i>Scintillating Scents</i>
CH128	Christina Boyd	<i>What's sweet and cool?</i>
CH129	Liberty Rister	<i>Lifting a Fingerprint</i>
CH130	Ashton Todd	<i>Whitest White</i>
CH131	Emma Armstead	<i>Does fabric softeners make your clothes more flammable?</i>
CH132	Chasity Bryant	<i>Scrub-a-dub-dub</i>
CH133	Olivia Jerrels	<i>Best Way To Clean Pennies</i>
CH134	Gavin Connelly	<i>scientific sodas</i>
CH135	Jalen Robbins	<i>Which Orange Juice has More Vitamin C?</i>
CH136	Ben Gollaher	<i>Sizzle in the Fruit</i>
CH137	Elizabeth Freels	<i>Soda Orbeez</i>
CH138	Meredith Gold	<i>The Effect of Soda on Teeth</i>
CH139	Leah Newman	<i>How can different temperatured waters affect the rate of a chemical reaction</i>
CH140	Claire Vowels	<i>Dissolving Gummy Bears</i>
CH141	Samantha Lindsey	<i>How Much Gas Does You Favorite Beverage Produce?</i>

CH142	Lauren Terhune	<i>What type of milk spoils faster?</i>
CH143	Madelyn Merkley	<i>What Removes Rust Better?</i>
CH144	Gabe Schmitt	<i>Plop, Plop, Fizz, Fizz!</i>
CH145	Caitleen Reyes	<i>Thirsty? Sun+Salt=FRESH</i>
CH146	Evan Rigney	<i>Chemical Chaos</i>
CH147	Cecilia Palummo	<i>Rusty Nails</i>
CH148	Ashton Rideout	<i>Bubble-ology</i>
CH149	Lily Hubbard	<i>You Light Up My World, Like Nothing Else</i>
CH150	Natalee Travis	<i>Crazy Crystal Creations</i>
CH151	Isabella McChessney	<i>Should you rethink your drink</i>
CH152	Jesse Coghill	<i>Is it possible to liquids into spheres using spherification?</i>
CH153	Brendan Haire	<i>Electrified Mishap</i>
CH154	Austin Reid	<i>Color in Motion</i>
CH155	SAMANTHA MARCRUM	<i>Will It Break?</i>
CH156	Kyla Fralick	<i>Wet Hands</i>
CH157	William Pinkston	<i>Brighten That Smile!</i>
CH158	Aria VanRoyen	<i>Acids and Bases</i>
CH159	Emma Gibson	<i>Which liquid rust screws the fastest?</i>
CH160	Trevor Robinson	<i>How Bright is Liquid Light</i>
CH161	Tyler Spurling	<i>Revenge of the rust</i>
CH162	Benjamin Lloyd	<i>Let it Glow</i>
CH163	Jackson Vassy	<i>Permanot?</i>
CH164	Shruthi Ramanathan	<i>Water Frenzy</i>

#### **EN Junior Division – Engineering**

EN101	Jordan Krempp & Connor Booker	<i>Magnetize your drive</i>
EN102	Hardin Mills & Robert Cain	<i>Electric fishing pole</i>
EN103	Jace Lemp	<i>Magnetic Fan</i>
EN104	Sophia Greenwood & Ty Schaefer	<i>Keeping you in Suspension</i>
EN105	Claire Heeke & Clancy Atchison	<i>Back to the Future Hovercraft</i>
EN106	EMILEE CHESHIRE & Abigayle Snyder	<i>H TWO OH</i>
EN107	Miles Reshetar & Grant Lee	<i>Which Bridge is the Strongest?</i>
EN108	Isabella Payne	<i>Mechanical Hands</i>
EN109	Rebecca Tasa	<i>Comparing truss bridge designs</i>
EN110	Mason Workins	<i>Which Bridge holds the Most Weight?</i>
EN111	Grant Edwards	<i>The Science of Bridges</i>
EN112	Kathryn Payne	<i>Packing Glassware</i>
EN113	Ellie Loney	<i>Which broad head penetrates best</i>
EN114	Luke Scheller	<i>Hovercraft</i>
EN115	Roland Biggs	<i>London Bridge is Falling</i>
EN116	Logan Gallagher	<i>Electromagnetic Strength</i>
EN117	Kodey Hausmann	<i>Grinding Gears</i>
EN118	Rylea Dixon	<i>Illusions</i>
EN119	Nathaniel Coomes	<i>The Affects of Temperature on a Batteries Life Span</i>
EN120	Brennan Lynn	<i>TASTE OR WASTE</i>
EN121	Conner Willett	<i>The affect of temperature on glow sticks</i>

EN122	Angelika Elderbrook	<i>Energy Savers</i>
EN123	Hannah Dotson	<i>The Hover Puck</i>
EN124	John Boeglin	<i>Get Charged!</i>
EN125	Robert White	<i>Spaghetti Strand Ratios</i>
EN126	Chloe Johnson	<i>Wifi Blocker</i>
EN127	Daniel Goodrich	<i>The Point of Parabola</i>
EN128	Gerald Ahlbrand	<i>Shake and Quake</i>
EN129	Jayla Smith	<i>Does changing the size of a propeller affect the spin rate of a reed switch motor?</i>
EN130	Ian Troutman	<i>Soundproofing?</i>
EN131	Grant Abbott	<i>What type of track best demonstrates the efficiency of a Maglev car?</i>
EN132	Cynthia Kaszynski	<i>Which Flies Better?</i>
EN133	Braeden Fitzsimmons	<i>Sparks or Not</i>
EN134	Jesse Ricketts	<i>Pier Pressure</i>

### **ES Junior Division – Earth and Environmental Sciences**

ES101	Jackson Lawhon & James Schalchter	<i>Easy Cheap Irrigation System</i>
ES102	EMMA WINIGER & GRACE KELLEY	<i>From the Ground Up</i>
ES103	Aubrey Holden, Kaija Carr & Ayden Pierc	<i>Crystal Fudge</i>
ES104	Wagemann Gavin, Jake Schnepper & Kylie Dickinson	<i>Can You Clone a Cabbage?</i>
ES105	Juan Valencia, Addison Stevens & Luke Jolito	<i>How Does a Wind Meter Work?</i>
ES106	JaMaya Byrum	<i>How can you use a hydrometer to measure how much humidity is in each room of my house?</i>
ES107	Sam Stevens	<i>Rocks of the Tri-State</i>
ES108	Jayla Ditterline	<i>Yuck, what happened to my apples: how different wrapping affects spoilage.</i>
ES109	Dawson Young	<i>'Tracking the Waves'</i>
ES110	Corbyn Decker	<i>KEEPING IT COOL</i>
ES111	Taylor Vogt	<i>Black Ink</i>
ES112	Meredith Denton	<i>Manure Happens</i>
ES113	Alizabeth Friday	<i>Water Purification</i>
ES114	Zoey Gates	<i>Where is air pollution the worst?</i>
ES115	Brady Quinn	<i>Deadly Silver</i>
ES116	Bronson Kilgore	<i>The Best TEOTWAWKI Water Filter</i>
ES117	Emma Humphrey	<i>The True and False of Atmospheric Pressure</i>
ES118	Deven Lockett	<i>Water Purification: Giving A Second Life To Produce</i>

### **MA Junior Division – Mathematics**

MA101	Alex Hartmann & Loden Greenwell	<i>Wasted Space</i>
MA102	Grace Wagoner	<i>How Do Carnival Workers Estimate Weight?</i>
MA103	Natalie Hutchinson	<i>Algorithms</i>
MA104	Audrey Stallings	<i>The Statistical Prevalence of Birthdays</i>

### **MB Junior Division – Microbiology, Molecular, Cellular Biology**

MB101	Gracie Jones & Rose Hall	<i>Old n Mold n</i>
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MB102	Morgan Bassett	<i>Defective Disinfectant</i>
MB103	Katelyn Miller	<i>See the Germs</i>
MB104	Annie Crowder	<i>Mold Vs. Baby Food</i>
MB105	Aidan Jeffries	<i>Bacterial Growth in Mouth</i>
MB106	Alex West	<i>A lot of DNA!</i>
MB107	Hannah Flamion	<i>E-I-E-I-Ewww: What's in your milk?</i>
MB108	Liv LOTHAMER	<i>Fruit and Vegetable DNA Extraction</i>
MB109	Kaelie Titzer	<i>5 Second Rule Fact or Fiction?</i>
MB110	Koby Reed	<i>Which common household item contains more germs? Remote Control, Cell Phone Screen, or Water Faucet Handle</i>
MB111	John Economou	<i>A Salty Solution</i>

**ME Junior Division – Medicine and Health Sciences**

ME101	Abigail Harrison & Kelsie Clay	<i>Do different amounts of pH make a water brand better?</i>
ME102	Brooke Walsh, Mary Kathryn Payne & Josie Bush	<i>The Impact of Different Foods on the Acidity of the Stomach</i>
ME103	CLAIRE GRAHAM & Audrey Parker	<i>Balancing Act</i>
ME104	LILLIAN BEYERS & ANNA GOLLAHER	<i>Caffeine: What does it DEW to you?</i>
ME105	Elisabeth Degenhart, Maycee Grigsby & Kelley Smock	<i>Calm Down Heart Rate!</i>
ME106	Aaliyah Tapp	<i>Electrolyte Challenge</i>
ME107	Aneesh Alapati	<i>Sugary Memory</i>
ME108	Brooklyn Marsh	<i>The Effects of Soft Drinks on Teeth</i>
ME109	Mabrey Rice	<i>Home made VS Store bought Toothpaste</i>
ME110	Shalynn Rhoades	<i>Music and Heartbeat</i>
ME111	Luke Dalton	<i>Which liquid replenishes your body with more electrolytes?</i>
ME112	Julian Bonner	<i>Boy VS Girl Peripheral Vision</i>
ME113	Zoe Heinlin	<i>Identified</i>
ME114	Ellie Kissel	<i>The Skinny on Moisturizers</i>
ME115	Gwyn Traylor	<i>What Body Type is Best Equipt for Rock Climbing?</i>
ME116	Elijah Ledoux	<i>To Clot or Not</i>
ME117	Cole Parrish	<i>Turn that music down</i>
ME118	Bella Shelton	<i>Why Does It Matter? Measure the Splatter</i>
ME119	Aaron Crawford	<i>how stress affects the body</i>
ME120	Abigail Farmer	<i>Is Your Thumbprint Inherited</i>
ME121	Benjamin Doyle	<i>Virtual Blood</i>
ME122	Harmony Wolff	<i>Stressed Out</i>
ME123	Kayli Hoffman	<i>The Future of Managing Diabetes</i>
ME124	Arushi Gandhi	<i>Death of Cholesterol: Natural or Chemical Causes</i>
ME125	Prachi Patel	<i>Burning French Fries</i>
ME126	Brandon Foster	<i>Color Me Blind</i>
ME127	Carter Deppe	<i>Insulin: Injection or Pill?</i>
ME128	Ben Howard	<i>What are the Odds?</i>
ME129	Max Moosbrugger	<i>Dieting at its Best</i>
ME130	Emily Hargiss	<i>How much sugar do you drink?</i>
ME131	Kayle Sawyer	<i>The Power of Sour</i>
ME132	ELLA TALLEY	<i>The Calorie Surprise in Chips and Fries</i>
ME133	JAYDON TAYLOR	<i>Teeth Staining</i>
ME134	AMANDA KESSLER	<i>Holy Globbs of Gluten !</i>

ME135	MADISON EAGAN	<i>Stressberries?</i>
ME136	Hannah Christian	<i>Do singers have a larger lung capacity than non-singers?</i>
ME137	Jackson Williams	<i>Finger Prints</i>
ME138	Ben Dalton	<i>Do electrolytes in sports chews provide more electrolytes and help than regular candies?</i>
ME139	Xavier Bugg	<i>Which soda stains your teeth the worst?</i>
ME140	Lillian Kolley	<i>Medication Mishap</i>
ME141	Hannah Ryan	<i>Voltage</i>
ME142	Omaima Khan	<i>Burning Calories</i>
ME143	Shruti Sivakumar	<i>Can 'Eye' See What You See?</i>
ME144	Jaye Collier	<i>Stop the flames</i>

**PA Junior Division – Physics and Astronomy**

PA101	Shane Hart & Aiden Susnjara	<i>What Kind of Pass Do Basketball Players Shoot Best Off Of?</i>
PA102	CRUZ QUIROZ & LOGAN COMBS	<i>How to Make a Guitar Sing</i>
PA103	Alexandria Hall & Allison Holmes	<i>Potato Power!</i>
PA104	Masin Huffine & Evan Hanson	<i>Light Up Your Painting</i>
PA105	Landon Gibson, Cody Plisky & Wyatt Reed	<i>Tennis Ball Temperature</i>
PA106	Spencer Selzer, Noah Holzmeyer & Ayden Lewis	<i>Breaking Britania</i>
PA107	Hassan Iqbal	<i>Paper Airplanes</i>
PA108	Mohammed Mourad & Braden Rollins	<i>How Fast Can You Go?</i>
PA109	Bryce Hayden	<i>Science of Baseball</i>
PA110	Jarie Thomas	<i>Sink the Shot</i>
PA111	Xavier Bigge	<i>The Use of Magnets in MagLev Hover Technology</i>
PA112	Gabe Raber	<i>Parachute Challenge</i>
PA113	Carter Denton	<i>Nothing but Net: The Science of Shooting Hoops</i>
PA114	Tyler Austin	<i>The Science of Bottle Flipping</i>
PA115	Kaleb Senninger	<i>Bringin' Out The Big Guns</i>
PA116	Abby Salisbury	<i>Ship Shape</i>
PA117	Brelynn Cobb	<i>The Best Tumbler</i>
PA118	William McAlvain	<i>Kicking Strength</i>
PA119	Will Forker	<i>Weightlessness</i>
PA120	Dominick Roy	<i>Eddy Brakes</i>
PA121	Judson Baxter	<i>The Science of Cheating in Baseball</i>
PA122	Francis Miller	<i>How high can this rocket fly?</i>
PA123	Jacob Fulcher	<i>Let's launch a satellite!</i>
PA124	Owen Odney	<i>Catch That Cluster</i>
PA125	Matthew Wisniewski	<i>Football's Distance</i>
PA126	Benjamin Rynder	<i>Domino Falls</i>
PA127	Nora St. Pierre	<i>Which brand of 30 ounce tumbler will hold ice as a solid longer?</i>
PA128	Tanner Erny	<i>Can Radar Spot It</i>
PA129	Lucy Hurley	<i>Huddle Hounds</i>
PA130	Greg Hippely	<i>Oobleck Vs. Honey</i>
PA131	Amy Chen	<i>Can Liquid Density Change the Pitch of the Sound?</i>
PA132	Claire Boeglin	<i>Who Are You?</i>

PA133	ARIANA SMITH	<i>Poke 2 Holes and Watch It Flow</i>
PA134	Jaxon Stauffer	<i>What's the Catch?</i>
PA135	ELISE UMBACH	<i>Water You Wearing?</i>
PA136	SHENGHUI LIN	<i>Guitar String Vibration Frequency</i>
PA137	Ava Dunville	<i>Electromagnet Speed</i>
PA138	Andrew Russell	<i>Centripetal Force</i>
PA139	Dalton Sellars	<i>Clash of the Broad-heads</i>
PA140	Jayden Pruitt	<i>What cooler keeps ice the longest?</i>
PA141	Josh Eakes	<i>Pumped Up</i>
PA142	Dylan Kanetkar	<i>Puck Travel</i>
PA143	Ellie Neeley	<i>Fly Me To The Moon- Predicting Model Rocket Altitudes</i>
PA144	Grace Gasaway	<i>Star Light Star Bright</i>

### **PC Junior Division – Energy: Physical and Chemical**

PC101	Cole Wilson & Kelton Roper	<i>Does Temperature of a Liquid Affect Viscosity?</i>
PC102	Sydney Peterson, Abigail Curl & Emily Hayes	<i>If You Can Eat It, You Can Burn It!</i>
PC103	Camden Arvin	<i>Baking Soda + Vinegar = Liftoff</i>
PC104	Gabe Hildenbrand	<i>Can Eggs Float?</i>
PC105	Alley Paul	<i>The Rubber Egg</i>
PC106	Joe Coghill	<i>Quickest way to cool your soday.</i>
PC107	Tommy Domsic	<i>The Heat Stops Here! Which Insulation Material is The Best?</i>
PC108	Wesley Galante	<i>Energy from Fire</i>
PC109	Blayne Sands	<i>Momentum of an Arrow</i>
PC110	Kyle Mayes	<i>A Cold War</i>
PC111	Tristen Gammon	<i>explosion</i>
PC112	Kyle Downey	<i>explosioin</i>
PC113	Jaylin Mockabee	<i>Why it's lit?</i>
PC114	Breck Bender	<i>Does Temperature Extend Battery Life</i>
PC115	Andrew Chandler	<i>What Shooting Style is the Best?</i>
PC116	Careese Toombs	<i>which ball goes furthest helium or oxygen?</i>
PC117	Scotlyn Vaughn	<i>Cooking Cookies</i>
PC118	Madison Wigg	<i>Sharp Shootin'</i>
PC119	Madison Schenk	<i>The pop ability of popcorn</i>
PC120	Kelsie Hill	<i>Help I'm Melting</i>
PC121	Rachel Nantz	<i>Can hot water freeze before cold water?</i>
PC122	Mylie Polley	<i>Burning Calories</i>
PC123	Adam Hirsch	<i>Let Your Light Shine</i>
PC124	Ashton Probus	<i>Rocket Science</i>
PC125	Landen Hagan	<i>Ice cup project</i>
PC126	Luke Payne	<i>It's Electric</i>
PC127	Dustin Russelburg	<i>seebeck effect</i>
PC128	Mikaela Jenkins	<i>The Effect of Clothing on Swim Drag</i>
PC129	Joshua Renshaw	<i>HYDROLIGHT</i>
PC130	Shelby Stevens	<i>Which Light Bulb Heats Up the Least Amount</i>

### **PS Junior Division – Plant Sciences**

PS101	COOPER THOMPSON & DYLAN MAPP	<i>Algae for Dinner</i>
PS102	Elias Ruedlinger, Aydan Amento & Gavin Kelley	<i>Grass Head Trolls</i>



PS103	Elena Boughton & Nicole Payne	<i>Grow Plant, Grow!</i>
PS104	Maci Farley	<i>How 'bout them apples?</i>
PS105	Olivia Roy	<i>Winter Gardening</i>
PS106	Brailyn Whaley	<i>RADIATION VS BEAN GERMINATION</i>
PS107	Arianna Rountree	<i>Power Plants</i>
PS108	Lauren Vick	<i>pH Problems</i>
PS109	Connor McClarney	<i>The Amount of Glucose in Fruit Juices</i>
PS110	Phuc Trinh	<i>Ripening of Fruits</i>
PS111	Anna Lancaster	<i>Extending the Life of a Christmas Tree</i>
PS112	Rupa Ponna	<i>plants vs. pesticides</i>
PS113	GG LaMar	<i>Berries Gone Bad</i>
PS114	Tamara (Toma) Joy	<i>What Methods Actually Work to Keep Your Flowers Fresh?</i>
PS115	Hunter Hayden	<i>Wrap it up: Wrappers vs. Oxidation</i>
PS116	Emma Mayes	<i>Classical, Country, or Rock</i>
PS117	Braydon Litteken	<i>Light and Aeroponics</i>
PS118	Ariana Gonzalez	<i>Does the pH of soil effect plant growth?</i>

### **RC Junior Division – Robotics, Computers, and Systems Software**

RC101	Jackson Larcomb	<i>What Materials Affect a Wi-Fi Signal</i>
RC102	Briley Fuller	<i>Does shutter speed affect the sharpness of a photo?</i>
RC103	Jackson Clark	<i>Cracked That!</i>
RC104	Grace Kobylanski	<i>Ultrasonic Distance Sensor HC-SR04</i>
RC105	Meera Bhatia	<i>Home Internet Speed Test</i>
RC106	CONNER ALFORD	<i>How does talking on the cell phone affect reaction time while driving?</i>

### **SS Junior Division – Behavioral and Social Sciences**

SS101	Kailey Walker & Clara Weinzapfel	<i>Can the color of a drink affect a person's opinion of its taste?</i>
SS102	Heather Kaelin & Madisyn Esparza	<i>Are Eyewitness Testimonies Accurate?</i>
SS103	Sarah Mangan & Adriana Martinez	<i>Manipulating the Stroop Effect</i>
SS104	Elizabeth Williams & Haley Osborne	<i>Does Chewing Gum Help Kids Concentrate?</i>
SS105	Abby Teddleton & Sophia Feightner	<i>Removing Stereotypes</i>
SS106	Claudia Emig, Lydia Bamberger & Gracin George	<i>Age and Reaction Time</i>
SS107	Madison Horton & Haley Karges	<i>Demographics and Personal Space</i>
SS108	Erika Byram & Baylee Thompson	<i>Right or Left</i>
SS109	Kahlan Brown, Leslie Martin, & Kendra Eckels	<i>Introverts vs. Extroverts and Their Feline/Canine Preference</i>
SS110	Ashley Stofleth & Jada Austin	<i>How Stress Affects the Body</i>
SS111	Madison Baker Lilah Rogel & Emma Sexson	<i>Reaction to Colors</i>
SS112	Mia Boyd	<i>The Stroop Effect: it's a Brain Game</i>
SS113	Emily Hayes	<i>Taste the Rainbow</i>
SS114	Haleigh Richmond	<i>Does Gender Affect Color Preference?</i>

SS115	Joey Scott	<i>Does video games improve hand eye coordnation?</i>
SS116	Madison Medley	<i>Shaping Your Thoughts</i>
SS117	Mason Phillips	<i>Are Fingerprints Inherited?</i>
SS118	Hadley Rumbach	<i>STOP AND SMELL THE MEMORIES</i>
SS119	Wesley Blalock	<i>Battle of the Senses</i>
SS120	Kiley Hamby	<i>Is Smiling Contagious?</i>
SS121	Bricelynn Shields	<i>Are Containers Childproof?</i>
SS122	Shriya Naraya	<i>The Effect of Music</i>
SS123	Dylon Moore	<i>It's in the prints</i>
SS124	Isabella Oakley	<i>Does gender effect color preference?</i>
SS125	Natalie Downs	<i>Time Perception: Younger vs. Older</i>
SS126	Ava Roblero	<i>Eye See You</i>
SS127	Katelan Huffman	<i>Jump Jump</i>
SS128	Haylie Burns	<i>Fat foods VS fat free</i>
SS129	Emma Becker	<i>How Does Smell Affect Taste?</i>
SS130	Jace Walker	<i>Do Video Games Improve Reaction Time?</i>
SS131	Elise Hibbs	<i>What lesson plan will help an autistic child memorize something the best?</i>
SS132	Julianne Latimer	<i>Which method of reading is best for memorization?</i>
SS133	Nicole Armeanu	<i>Read You Like A Book</i>
SS134	Lalitha Nair	<i>short-term memory-ADHD VS. NON-ADHD</i>
SS135	Gracen Blanford	<i>Downward Dog</i>
SS136	Jacob Fink	<i>The Stroop Effect</i>
SS137	Haya Allababidi	<i>Fake?</i>
SS138	Hamza Rimawi	<i>Will it Cookie?</i>
SS139	Markaylyn Banks	<i>Identification of Touch</i>
SS140	Sydney Curneal	<i>Does the way a message is written affect how the receiver perceives the sender's attitude?</i>
SS141	Mya Dossett	<i>Audio Vs. Visual: Cheerleading</i>
SS142	Jake Perry	<i>Look At That</i>
SS143	Cadence McAtee	<i>Exercise Memory</i>
SS144	Margaret Privette	<i>Posting People's Personalities</i>
SS145	Brenna Staser	<i>Is it How You Say it or What You Do When You Say it?</i>
SS146	Kyla Sandefur	<i>Taste Buds: Do they work without your smell?</i>
SS147	Sam Piering	<i>Gray Matter Goes Green</i>
SS148	Noah Lang	<i>Human Color Perception</i>
SS149	Caroline McCance	<i>Put It in Perspective</i>

## ELEMENTARY DIVISION

*PLEASE NOTE: Student Names and Project Titles are presented in the program as submitted by the students on their online registration forms.*

ELE001	Dusten Anderson, Grayce Martin & Raycee Stallings	<i>Balloon Car Challenge</i>
ELE002	Aparna Kudiyirikkal Anil, Zack Bulkley & Lena Romero	<i>Potato Battery vs. Lemon Battery</i>
ELE003	Rylee Schmuck & Brooke Franks	<i>Battle of the Senses: Taste vs. Smell</i>
ELE004	Hannah Seifert, Wyatt Little & Ella McCune	<i>Coke and Mentos: Exploring Explosive Chemistry</i>

ELE005	Morgan Watson, Makayla Grantham & Hannah Rhea	<i>Corrosion</i>
ELE006	Ally Johnson, Camaro Crawford & Tyler Perigan	<i>The Effect of Design on Weight Bearing Capacity</i>
ELE007	Rees Lyons, Eddie Girten & Mia Wagner	<i>Electric Play Dough</i>
ELE008	Adam Burke, Hadley Weatherford & Isabell Williamson	<i>What makes ice melt fastest?</i>
ELE009	Meredith Feagley, Blake Brucken & Destin Gentry	<i>Lift Off!</i>
ELE010	Ryan Kelley, Abby Norvell & Emily Stokes	<i>Nailed It!</i>
ELE011	Brandi Schu, Haley Grantham & Lily Sizemore	<i>The Secret of Black Ink</i>
ELE012	Ava Watters, Derek McCord & Olivia Redman	<i>How the strength of a magnet varies with temperature</i>
ELE013	Aaron Weiss, Madolyn Huss & Dillan Ethridge	<i>Flippy, The Dancing Robot</i>
ELE014	Merritt Snodgrass, Caleb Holton & Kendall Wassmer	<i>Are we lying or are you?</i>
ELE015	Morgan Adler, Aaron Cobb & Halie Dickinson	<i>How can tofu pack such a flavorful punch?</i>
ELE016	Dominick Baehl & Adam McDowell	<i>Balloon Powered Car Challenge</i>
ELE017	Maysa Hartman, Bella Gibbs & Solicitud Muncy	<i>Building a Robot Hand</i>
ELE018	Katherine Fancher	<i>Shocking Discovery: What Fabric Creates the Best Static Electricity?</i>
ELE019	Cameron Swader	<i>Porosity and Particle Size</i>
ELE020	David Walling	<i>March Madness</i>